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The Secretary,
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Editors
Kishor Rithe
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Editorial Assistant
Sonali V. Vadhavkar

Design & Layout
V. Gopi Naidu
Sanchita S. Kadge

Cover: Blackbuck
by S. Ram Prasad

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For more information on the Society
and its activities,
write to the Honorary Secretary,
Bombay Natural History Society,
Dr Sálim Ali Chowk, S.B. Singh Road,
Mumbai 400 001, Maharashtra, India.
Tel.: (91-22) 2282 1811
Fax: (91-22) 2283 7615
E-mail: info@bnhs.org
Website: www.bnhs.org

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House Crow: Intelligent Villain or Misunderstood Genius?

House crows are intelligent, adaptable, and deeply social creatures exhibiting a remarkable range of cognitive abilities. Long woven into folklore and symbolism these birds are known for their capacity to form bonds and recognize human faces. **Asad R. Rahmani's** narrative sets one thinking: is the house crow an intelligent villain or misunderstood genius.

Kaziranga, the Pride of India

A.J.T. Johnsingh and **Naveen Pandey** have explored Kaziranga's pristine wilderness more than a dozen times, drawn by its sweeping grasslands and captivating forests teeming with biodiversity. But, each time they left they carried with them the hope that the magnificent Kaziranga Tiger Reserve – with its awe-inspiring landscapes, charismatic species, and extraordinary people – would continue to inspire generations for years to come.

PHOTO FEATURE

Dew Flowers of India

The dew flowers are usually nestled in the undergrowth, spread across grasslands and plateaus, or peeking out along coastal belts and agricultural fields. Many species bloom only briefly during the rainy season, while others persist year-round. **Mayur Nandikar** highlights the traits, habitats, and origins of these delicate, short-lived blossoms – beautiful and fleeting, much like dew itself.

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Editorial...

The monsoon has now embraced almost the entire country, with the exception of a few regions like Ladakh. The persistent showers have stirred Mother Earth into action, triggering new growth from rootstocks. Some shrubs and trees must already be in bloom – and if not, just wait a few more weeks to witness a spectacular burst of colour!

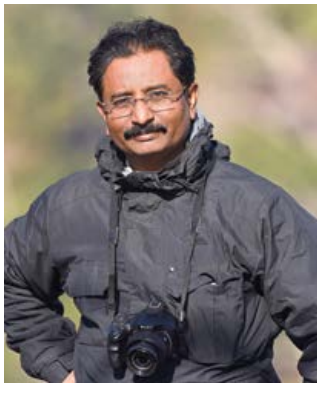
Urban planners and nature lovers have planted many flowering avenue trees along roadsides across Indian cities, drawing attention whether the species are native or exotic. Personally, I am not fond of exotic trees despite their vibrant blossoms. In this edition's Readers' Space, you will be introduced to one such non-native tree: the Pink Trumpet Tree *Tabebuia rosea*, presented by Sangeeta Jain from Mumbai, Maharashtra. Named for its large, trumpet-shaped pink flowers that bloom in spring, this tree is native to Central and South America. Yet, you will find many of them lining Indian city roads.

If you enjoy watching wild flowers, you will also enjoy the article 'Dew Flowers of India', with its stunning photographs, contributed by Mayur Nandikar.

The *Hornbill* features are always a highlight. Dr Asad Rahmani shares a fascinating piece on a bird that is often misunderstood: the crow. His article, 'Intelligent Villain or Misunderstood Genius?' explores the reputation of this species that is so often in the spotlight – though rarely for good reasons. Crows are probably the subject of more stories than any other bird.

I have also heard unusual stories about crows in rural India. Witnessing crows mating is considered a bad omen, believed to foretell death. Gripped by this myth and anxious about its implications, some people try to ward off the supposed danger by sending postcards falsely announcing a death – thinking it will avert the real one. Have you ever witnessed crows mating?

We also pay tribute to Dr A.J.T. Johnsingh, who passed away last year. A beloved contributor to *Hornbill*, he regularly transported readers deep into India's forests through his evocative writing. Mr Naveen Pandey, who spent time with Dr Johnsingh in Kaziranga, shares 'Kaziranga, the Pride of India' – an article they co-authored shortly before Dr Johnsingh fell ill. A UNESCO World Heritage Site since 1985 and a Tiger Reserve since 2007, Kaziranga is home to several bird species.



For long-time BNHS members, there is a special feature on the Builders and Guardians of BNHS. This issue features one of the early trustees, Colonel George Robert Canning Harris (1851–1932), better known as Lord Harris. He served as the second President of BNHS during his tenure as Governor of Bombay from 1890–1895. Dr Bharat Bhushan, Hon Secretary, offers a brief yet fascinating glimpse into his contributions to BNHS, India, and even cricket!

In the past three issues, *Hornbill* introduced the '*Systema naturae* 2033' initiative, inspired by the 1983 ENCYCLOPEDIA OF NATURAL HISTORY edited by Robert Hawkins and published by BNHS. We invite you to explore 'Call to Contribute: BNHS 150 Years – THE BOOK OF INDIAN TREES'. If you have a background in botany, we encourage you to participate.

In the 'Diary of a Scientist' section, meet Dr Himadri Sekhar Mondal, a BNHS researcher who shares his experiences in Sikkim through 'Learning from the Wild: A Day in the High Himalaya'. Dr Mondal completed his Ph.D. on the white-bellied heron and joined BNHS in 2018, working across Assam, Arunachal Pradesh, and Sikkim.

The Nature Watch section features 'Home in the Hills: Nest Builders of Ranikhet' by Shaafay Khalid and Kaleem Ahmed, accompanied by beautiful bird photographs by Shaafay. This article goes beyond typical birdwatching and encourages readers to document the nesting and breeding behaviours of birds.

We must acknowledge the recent loss of some of BNHS India's most dedicated conservationists and naturalists: Mr Sunjoy Monga, a passionate birder and mentor to many, Padma Shri Maruti Chitampalli, forester and Marathi writer, Mr Valmik Thapar, tiger expert and former Chair of the BNHS Conservation Subcommittee, and Dr Saramma Marselin Almeida, eminent botanist. Their absence is deeply felt – not only by their families, but by the nation. BNHS will always honour their legacies.

The Nicobar Islands, situated in the Andaman Sea, have recently drawn media attention due to alarming infrastructure development plans. This has raised serious concerns among conservationists. In Book Reviews, we spotlight THE GREAT NICOBAR BETRAYAL by Pankaj Sekhsaria, an environmental advocate deeply committed to the Andaman & Nicobar Islands. I first heard him speak at BNHS, passionately critiquing the infamous Andaman Trunk Road (ATR), which slices through Jarawa tribal land. Another book reviewed by Dr Asad Rahmani, TALES FROM THE JUNGLES: NARRATIVE OF A NEMOPHILIST by Saiyed Tariq, also seems quite interesting. I am sure readers will appreciate it. I have reviewed the book ENVIRONMENTAL POLITICS AT THE LOCAL: NATURAL RESOURCE GOVERNANCE IN INDIA by Satyajit Singh and Ajit Menon, published by Orient BlackSwan. It promises to be a valuable resource for academicians. The 'must-read' JUNGLE BUNGLE is a collection of over 30 short, first-hand conservation stories written by Nandu Andhare.

In Conservation Notes, you will find an article on the urban pigeon menace in India. When you read it, you might hear objections from so-called animal lovers who resist actions like banning *kabootar khanas*, yet seldom engage with the science behind urban ecology. I encourage readers to reflect: where was this outcry when Municipal Corporations took bold preventive action to control rat populations in order to curb the potential spread of plague? Conservation sometimes requires tough decisions.

Enjoy reading!

Kishor Rithe

House Crow: Intelligent Villain or Misunderstood Genius?

Text: **Asad R. Rahmani**

DHRITIMAN MUKHERJEE

House crows can be seen scavenging for food in streets and open spaces in Andaman Island

In colour-conscious society like India, the terms fair and *goori* frequently appear in matrimonial advertisements, especially those for women. A girl's academic qualifications are often considered secondary – what matters more is that she should be *goori*. By contrast, *kala kauwa* – literally 'black crow' – is an epithet often used to insult someone perceived as dark-skinned and unintelligent. But if we were to judge by actual intelligence, perhaps those ads should instead read: "Wanted: a bride or groom as smart and innovative as a crow!"

Crows, particularly those in the corvid family, to which the House Crow *Corvus splendens* belongs, have long been recognized for their intelligence. This is not just modern science talking – the ancient Greeks knew it too. Aesop's fable *The Crow and the Pitcher* famously tells of a thirsty crow who cleverly raises the water level in a pitcher by dropping pebbles into it. Moral stories like this reflect observations that date back centuries.

Ancient Sanskrit literature is equally appreciative. In this literature, crows are portrayed as shrewd and resourceful. One tale, *The Cunning Crow*, shows the bird using its wit to outsmart other animals and survive adversity – qualities that are as relevant today as they were in ancient India.

While researching crows, I found myself going down an endless rabbit hole – there are simply too many intriguing studies about corvid intelligence to list here. So, I will focus on a few highlights, including some personal encounters that left a lasting impression.

Crows exhibit complex cognitive abilities, including long memory, facial recognition, and advanced problem-solving. In 1980, I was sent to Point Calimere Sanctuary in Tamil Nadu by the Bombay Natural History Society (BNHS) to learn bird ringing. The training was rigorous, with only Sundays off. Coming from North India, I packed white kurta-pyjama to wear during non-office hours.

One hot Sunday afternoon, I heard a commotion outside our rented house.

A pre-fledged crow had fallen from its nest, prompting its parents and companions to raise a racket. I picked up the injured chick and placed it on a high branch to protect it from nearby cats. The cawing and dive-bombing intensified, drawing attention in the sleepy village. From that day forward, the crows recognized me. Whenever I stepped outside, they would caw angrily and dive-bomb me, even when I wasn't wearing the conspicuous kurta-pyjama. Clearly, they could recognize my face regardless of attire. When I returned to Point Calimere two decades later, a new generation of crows had taken over – and finally, I was spared their wrath.

Another anecdote comes from my Ph.D. days at Aligarh Muslim University in the 1970s. One of my seniors was studying endoparasites in crows and had captured and released a few for research. Word seemed to spread quickly among the local crows. They harassed him incessantly, dive-bombing and cawing whenever he ventured outside. He was nicknamed *kala kauwa* – much to his displeasure.

Crows are also notorious pranksters. I once witnessed a crow in the Thar Desert mischievously pulling the tail feathers of a resting vulture near a cattle carcass. Too bloated to fly, the vulture tried weakly to retaliate, but the crow always dodged just in time. Soon, other crows joined the prank, clearly enjoying the vulture's discomfort.

Crows often mob raptors, but they seem to have a particular dislike for Oriental honey buzzards – even though these buzzards do not prey on crows. I have seen crows follow a buzzard in flight for 10–15 minutes until it vacated the area.

When a crow dies from electrocution, its companions often gather and caw for days. I once witnessed crows mourning a deceased companion for over a month, long after the body had shrivelled and lost most feathers – an eerie ritual of communal grief.

Sálim Ali and Dillon Ripley beautifully captured the house crow's behaviour in their magnum opus, HANDBOOK OF THE BIRDS OF INDIA AND PAKISTAN. On page 44 of Volume 5, they write:

ASAD R. RAHMANI

Crow emblem at the Kala Ghoda Festival in Mumbai

"*A confirmed commensal of man, almost an element of his social system. Very useful as a municipal scavenger and an indispensable ally to neglected or incompetent sanitary administration! Inquisitive, intelligence and impudently familiar, yet excessively wary and alert all the time, possessing an uncanny capacity for scenting and avoiding danger and distinguishing a harmless human from one not to be trusted. Gregarious, sociable, clannish, cunning, and omnivorous – other essential qualifications*

NANDKISHOR DUDHE

House crows are highly adaptable birds

PRIYADARSHINI SUPEKAR

Jungle crows are highly intelligent birds and are known to possess cognitive skills

for successful co-existence with man." I cannot quote the full text, but read this, "*Revels in puckish antics such as playfully tweaking tails of other birds, or ears of sleeping cows or dogs, or toes of flying-foxes hanging on their diurnal roosting trees, with no apparent object other than to enjoy their annoyance and discomfort!*"

Cultural attitudes toward crows vary. In the Zoroastrian tradition followed by Parsis, crows are sacred, often associated with the souls of the departed. Their dead are exposed to scavenger birds – vultures, kites, and crows – on raised structures called dakhmas or Towers of Silence.

In North India, the cawing of a crow at the gate or window is seen as a sign of an impending visitor. In Parsi belief, it may signify a message – sometimes even from a departed soul. *Pinda pradhana*, the offering of cooked rice to ancestors, it is believed that if a crow eats the food, the offering reaches the departed. Crows are also believed to be the vehicle of *Shani* (Saturn) in Hindu astrology.

Africans have a rich tradition of folklore and fables associated with animals. For example, some tribes consider crows to be messengers of the gods or symbols of intelligence, wisdom, and adaptability. In contrast, other cultures associate crows with witchcraft and magic, leading them to be shunned. Some traditions view crows as symbols of death and transformation – bridging the physical world and the spiritual realm – representing the cycle of life and the importance of renewal and rebirth.

The sighting of a crow can be seen as either a good or bad omen, depending on the cultural context. In some cultures, a crow flying overhead may be interpreted as a warning of impending danger, while in others, it is seen as a sign of protection or guidance.

Interestingly, white crows – rare individuals affected by albinism – often attract national media attention and social media buzz. However, in India, a 'white crow' is traditionally considered inauspicious. Paradoxically, the white ibis or black-headed ibis, often referred to as *sweth-cack* or 'white water crow', is respected and generally left unharmed in many regions of India. Similarly, cormorants are often not consumed in some communities because they are called *pan-kauwa* or 'water crow' due to their black plumage. Such superstitions, though unscientific, reveal how deeply crows are embedded in our cultural consciousness.

Despite their intelligence, crows are duped by the koel, a brood parasite. Koels lay eggs in crow nests, and the unsuspecting host incubates and raises the chicks. I once encountered koels on Narcondam Island – an isolated 6.9 sq. km island – where no crows exist. Do koels there parasitize other birds? This remains a question for future study.

The Mughal Emperor Jahangir, a keen naturalist, noted in his *Jahangirnama*:

"*The koel is a bird of the crow tribe, but smaller. The crow's eyes are black, and those of the koel red. The female has white spots; but the male is all black. The male has a very pleasant voice, in fact the voice of the female is no match to his ... of all, the strange thing is that it does not hatch its own eggs; but when it is to lay an egg, wherever it finds a nest of a crow unguarded, … it breaks the crow's egg with the beak, throws it away and laying its own in*

the place, flies off. The crow, mistaking this egg as its own, hatches it and brings up the young one. I have myself observed this strange phenomenon in Allahabad."

Originally native to the Indian subcontinent, the house crow is now among the world's worst invasive species – alongside the common myna. It is believed to have reached Zanzibar via ship, possibly introduced by Indian traders. Today, it is common in the Andaman and Nicobar Islands, where it was absent until a few decades ago.

Dr Rauf Ali once told me about eight crows that arrived in Port Blair on a ship. He warned authorities, urging eradication – but no action was taken. About 15 years ago, I saw two pairs feeding on four chicks each in two nests in Port Blair. Dr Parag Deori, Senior Veterinary Officer, Veterinary Dispensary, Manglutan, South Andaman, says "*Now, crows are common across South Andaman, including Stewartgunj Wetland, where 45 were recently counted. According to eBird data (2014–2024), crows are sighted year-round.*"

On Socotra Island, Yemen – a global biodiversity hotspot – the house crow was successfully eradicated after its arrival in the 1990s. The same should have been done in the Andaman, where endemic species are vulnerable to the crow's predation and competition. My appeal to the Andaman administration: act now to control or eliminate the house crow before it spreads to smaller islands, threatening local biodiversity. These birds can wreak havoc on ecosystems and public health.

The house crow has now spread to around 25 countries across Africa, the Arabian Peninsula, Southeast Asia, Australia, Europe, and the Americas. It survives even in cold regions, feeds omnivorously, and thrives on garbage, crop fields, poultry farms, and cattle sheds. Most concerning is its impact on native birds, whose eggs and chicks it preys upon, and the diseases it may spread.

The term scarecrow originates from attempts to protect crops from crow damage. Ironically, modern research, especially on New Caledonian crows, has shown that these 'scarecrows' are actually remarkably intelligent. Viral videos have demonstrated their tool use and problem-solving skills.

ASAD R. RAHMANI

Large-billed crows are known to form friendships or hold grudges based on past encounters

In the English language, the term *"birdbrain"* is often used colloquially to refer to someone who lacks intelligence. It originated from the historical perception that birds – particularly smaller species like songbirds – had small brains relative to their body size. This led to the assumption that birds were not particularly intelligent creatures compared to mammals like humans. However, recent research shows that birds, particularly members of the corvid family, are intelligent and capable of complex behaviours, problem-solving, and even tool use. Therefore, if someone calls you a *birdbrain*, take it as a compliment!

Asad R. Rahmani is a renowned ornithologist, and former Director of BNHS. He is now a member of the BNHS Governing Council.

Kaziranga, the Pride of India

Text: **A.J.T. Johnsingh and Naveen Pandey**

Dr Johnsingh and I frequented Kaziranga's pristine forests over a dozen times spanning over a decade between 2013-23. During our last visit in 2023, as we set to return from the forest, he asked me to park the safari vehicle under a massive Bischofia janavica *tree by the side of a wetland where a herd of elephants were relishing the submerged vegetation while half a dozen rhinos grazed by the side of the wetland. Two otters were feeding on fish while a black-necked stork kept splashing water around. It was at that moment Dr Johnsingh expressed his desire to pay tribute to the most sacred forest by penning an article together. We spent an hour cramped in our safari vehicle, jotting down notes and thoughts together from all our visits. The first draft of this article came as a handwritten note. That moment - setting sun, elephants coming out of the wetland, rhinos and wild buffalos approaching the wetland and two of us sitting in silence as hundreds of waterbirds flew over us conversing loudly - will remain inked forever in my thoughts. Dr Johnsingh enriched the notes further by citing relevant examples from other PAs to provide a broader narrative to our story. I miss him so much. This article is a tribute to Kaziranga and to the man who loved everything in a forest! – Dr Naveen Pandey*

The evening sun hung low, a fiery red orb in a cloudless sky, sinking slowly behind the blue silhouette of the Karbi-Anglong Hills. It was January 23, 2023, and we were driving through the Burhapahar Range on a dusty road skirting a lagoon of the mighty Brahmaputra. Along the way, we glimpsed sambar, rhinos, and a herd of buffaloes scattered across the dry lagoon bed. But suddenly, all attention turned to a large animal striding swiftly along the road ahead, kicking up a plume of dust. It was a tiger.

We urged our driver to follow. The tiger moved with purpose before veering left, vanishing into a dense thicket along the lagoon's edge. In that fleeting moment, we could see it was a large, healthy male. Parking at a safe distance, we waited in silence, hoping it might return to the road. But instead, an adult wild buffalo charged out, snorting furiously as it plunged into the same thicket – only to re-emerge and disappear into the forest. The tiger was gone. In Kaziranga, tiger sightings are rare. The vast swamps, tall elephant grasses, and the expansive riverbanks offer excellent cover, making these big cats elusive.

Kaziranga Tiger Reserve, a jewel in Assam's crown and a treasure of India, spans roughly 1,300 square kilometres of Brahmaputra floodplain. Originally protected as a 430-square-kilometer sanctuary, it has since expanded to include vast grasslands, cool semi-evergreen forests, and numerous flood-linked lagoons. As you explore its wild terrain, it's easy to imagine a time when much of India's floodplains – stretching from the Ganges to the Brahmaputra – were cloaked in similar grasslands, teeming with wildlife.

But the post-independence eradication of malaria in the 1950s opened these fertile lands to human settlement. What followed was a rapid conversion of floodplain habitats to agriculture and villages – leading to the disappearance of countless species and landscapes. Today, Kaziranga is the largest remaining expanse of protected Gangetic-Brahmaputra floodplain habitat.

Kaziranga's grasslands are vital for a wide array of ungulates – from the diminutive hog deer to the majestic elephant. Tall grass species include *Arundo donax*, *Erianthus ravennae*, *Imperata cylindrica*, *Neyraudia curvipes*, *Saccharum elephantinum*, and *Phragmites karka*. Moist meadows support short grasses like *Cynodon dactylon*, *Cenchrus ciliaris*, *Hemarthria compressa*, *Microstegium ciliatum*, and *Paspalum distichum*.

Yet, these crucial habitats are under threat – not from humans, but from invasive plants. Inedible species like *Tamarix aphylla* and *Lagerstroemia parviflora* encroach upon grasslands. *Bombax ceiba* is regenerating profusely, while *Albizia procera*, once dominant, is disappearing. *Mikania micrantha*, a choking vine, strangles forage species such as *Ziziphus mauritiana*, while *Ipomoea cornea* overtakes marshy habitats. Still, the grasslands harbour Vulnerable rare birds like the swamp francolin and the Critically Endangered Bengal florican.

Kaziranga's cool forests are equally captivating. Dense patches of cane *Calamus tenuis* provide elephants with their favourite snack. Other remarkable flora includes *Bridelia retusa* and *Bridelia scandens*, *Chukrasia tabularis*, *Duabanga grandiflora*, and *Dillenia indica* – whose fruits are savoured by elephants and used in Assamese kitchens. Trees like *Dysoxylum binectariferum* attract hornbills, and *Elaeocarpus floribundus* yields fruits pickled by locals.

These forests are alive with the songs and calls of babblers, bee-eaters, birds of prey, bulbuls, drongos, flycatchers, hornbills, pittas, owls, and owlets. Barking deer and sambar occasionally

NAVEEN PANDEY

Highland inside the Park

emerge from the shadows. Sohola Beel, in the Agoratoli Range, is a prime spot for waterbird enthusiasts.

Declared a UNESCO World Heritage Site in 1985, Kaziranga marked 100 years of successful biodiversity conservation in 2005 and was designated a Tiger Reserve in 2007. It has recorded over 500 bird species and was in August 2022 named India's Best Wildlife Destination by *Outlook Traveller*. More than 180 anti-poaching camps, manned by over a thousand personnel, are spread across the reserve. Patrols use an 800 km network of trails and waterways, aided by 10 speedboats and six mechanized rescue boats during floods.

The floodplains of Kaziranga are hydrologically dynamic, and during the flood season, the survival of several mammal species – such as elephants and tigers – depends on their access to the Karbi-Anglong hills. Historically, these hills were contiguous with the southern side of the Kaziranga Tiger Reserve, forming the once-undivided Kaziranga landscape. However, this continuity was disrupted by the development of NH-37 (now NH-715) and the settlements that have grown on either side of the highway, particularly to the south.

Over the years, heavy traffic on this route has claimed the lives of numerous animals, including a tiger and a swamp deer, and injured a rhino. To mitigate this loss, nine wildlife corridors have been identified as critical. Of these, the Panbari, Haldhibari, Kanchanjuri, Hatidandi, and Deosur corridors are heavily used by large mammals. The local community – key stakeholders in Kaziranga's conservation success – has played a vital role in minimizing wildlife casualties. They have rescued distressed animals, helped control vehicle speed during floods, and patrolled the fringe areas around their villages.

Since 2022, sensor cameras have been installed along the highway – from the Panbari corridor to the western subdivision boundary near Burhapahar – to regulate vehicle speed effectively. To help mammals escape the floodwaters, which typically last for a few days, the Reserve management has constructed numerous high mounds, where animals can take refuge until the waters recede.

Unfortunately, incidents of wild herbivores being chased and fatally wounded by free-ranging dogs are alarmingly on the rise in villages near these corridors. On a more positive note, the annual flood rejuvenates the Reserve's ecosystem by replenishing soil nutrients, removing the invasive weed *Eichhornia crassipes*, and bringing a fresh influx of fish into the Reserve's beels and adjacent landscapes.

NAVEEN PANDEY

Wetland infested with invasive species

A.J.T. JOHNSINGH

A tusker debarking a silk cotton tree in Kaziranga Tiger Reserve

Early one morning, we spotted a herd of swamp deer *Cervus duvauceli ranjitsinhii* resting in a meadow. They appeared unbothered by our approaching vehicle. Although it was heartening to witness such a large herd up close, it was also sobering to consider their dwindling numbers. Once numbering in the thousands across the alluvial floodplains, this subspecies now survives in only a few protected areas: Suklaphanta Reserve in Nepal, Dudhwa Tiger Reserve (including Kishanpur Wildlife Sanctuary) in Uttar Pradesh, Jhilmil Jheel Conservation Reserve in Uttarakhand, and Kaziranga Tiger Reserve. The total global population is just over 3,000 – approximately 2,000 in Suklaphanta, 1,000 each in Dudhwa and Kaziranga, and about 150 in Jhilmil Jheel. Conservation efforts are underway in Manas, where the population is being bolstered through translocation and protection.

The herd we observed included several stags with velvet antlers at various stages of growth, indicating that the breeding season had ended. A substantial number of fawns suggested successful reproduction. The deer flapped their large ears to fend off insects, and their presence in the meadow suggested they had likely spent the night there. This behaviour, known as yarding, is an anti-predator strategy that helps them avoid tiger predation. Tigers, Kaziranga's apex predators, hunt by stealth. To successfully ambush a swamp deer, a tiger must approach very closely. In a yarded group, the deer can detect the predator's approach, triggering alarm calls and coordinated defensive behaviour, often thwarting the tiger's hunt.

The most important ungulate prey for tigers in Kaziranga is the hog deer. This species, which feeds on tender grasses in moist habitats, has lost much of its historical range. While it still persists in pockets within protected areas such as Corbett Tiger Reserve (where numbers are declining even in prime habitats like Dhikala chaur due to jackal predation), Suklaphanta, Bardia, and Chitwan National Parks in Nepal, Dudhwa Tiger Reserve, and Jaldapara Wildlife Sanctuary in West Bengal, the largest remaining population is in Kaziranga.

It is estimated that Kaziranga holds between 40,000 to 50,000 hog deer. Unfortunately, many perish during floods due to their small size and limited mobility. Their habit of roaming through grasslands and forests makes them particularly

A.J.T. JOHNSINGH

Several species of plants grow from rhino dung pile, *Cleome pentandra* is one such species

vulnerable to tiger predation. On the evening of January 20, 2023, as dusk settled, we returned from the forest via the Turtuani-Munamari road east of Sohola beel. Along the way, we observed numerous hog deer preparing to yard in open areas for the night – behaviour also seen in chital, a species absent in Kaziranga.

Unexpected encounters with wild buffaloes – known for their strength and aggression – can be startling, even from the safety of a vehicle. These animals, the ancestors of domestic buffaloes, are grassland dwellers and have become extremely rare. The peninsular variety, once widespread in eastern and central India, has declined to fewer than 50 individuals in Chhattisgarh and Maharashtra, on either side of the Indravati River.

Kaziranga Tiger Reserve, with nearly 3,000 wild buffaloes, holds about 90% of the global population of this endangered species. Although currently safeguarded from habitat loss and poaching, the species has previously faced the threat of hybridization. In the past, wild buffaloes interbred with domestic buffaloes kept in camps on Brahmaputra islands. This issue has since been addressed by a High Court order in 2022 banning such camps. Before this intervention, wild bulls would drive off domestic bulls and mate with domestic cows, which often eloped into the wild, leading to gradual hybridization. Despite their formidable size – comparable to the gaur – wild buffaloes are occasionally preyed upon by tigers, particularly the agile and powerful adult males.

The Indian subcontinent was once home to three species of rhinoceros – the Indian, Javan, and Sumatran. Today, only the Indian rhinoceros *Rhinoceros unicornis* survives in Nepal and India. Kaziranga Tiger Reserve harbors close to 80 percent of the global population of around 3,000 individuals.

What amazed us during our visit was the rhino's ability to consume a wide variety of plant species – many of which are considered unpalatable to other herbivores. A quick analysis of rhino dung reveals a diverse diet that includes *Amaranthus spinosus*, *Cleome speciosa* (with its striking pink flowers), *Heliotropium indicum*, *Polygonum barbatum*, *Solanum surattense*, and *Xanthium strumarium*.

Although poachers have historically killed a few rhinos each year for their horns – reportedly fetching up to USD $400,000 per kilogram on the black market – Kaziranga's rhino population now enjoys a relatively secure future. This is largely thanks to the unparalleled dedication of the Reserve's forest guards, who patrol these predator-

rich landscapes even at night. Remarkably, 2022 was celebrated as a year with zero rhino poaching.

To bolster rhino numbers across India, WWF-India launched Rhino Vision 2020, aiming to increase the population to 3,000 individuals – a goal now achieved through the unwavering commitment of frontline staff.

Kaziranga is home to an estimated 1,000 elephants. Encouragingly, this number does not seem to have exceeded the Reserve's carrying capacity, as evidenced by the survival of *Bombax ceiba* (silk cotton trees), whose bark is a favourite food of elephants. While many trees show signs of debarking, they have not been completely destroyed – a stark contrast to Rajaji Tiger Reserve, where most of the once-abundant silk cotton trees have been killed by elephant activity.

Tigers in Kaziranga engage in a behaviour where they stand on their hind legs and claw at trees with soft bark using their forelegs. This serves dual purposes: scent marking (via interdigital glands) and claw sharpening – vital for taking down large prey such as sambar and buffalo. Due to a high density of prey, Kaziranga boasts one of the world's highest tiger densities – over 12 tigers per square kilometre. The tree most frequently used for clawing is *Bischofia javanica*, which is similarly used across tiger habitats from Periyar in the Western Ghats to Nandhaur in the Himalayan foothills of Uttarakhand.

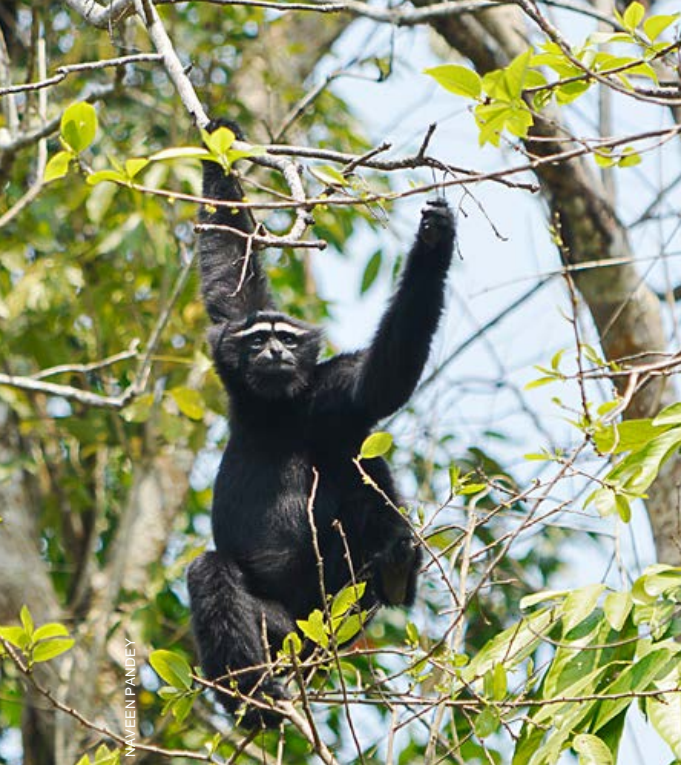
Majestic and monogamous, the Great hornbill is one of Asia's largest and most iconic hornbill species

Among Kaziranga's most pressing challenges are the unchecked, often unethical developments along NH-37 and the conspicuous absence of bee hives, despite hundreds of suitable trees. This may be linked to the increasing use of pesticides in the adjacent tea gardens along the Karbi-Anglong foothills. Promoting organic tea cultivation could help reverse this trend.

Another serious threat is the rampant spread of *Ipomoea carnea*, an invasive aquatic plant that chokes water bodies and threatens aquatic biodiversity. This species must be aggressively controlled – not just in Kaziranga, but across the country.

Climate change, too, looms large. Ramesh Gogoi, a Karmashree awardee who served as Range Forest Officer (1987–1990) and later as Divisional Forest Officer from 2020, noted that Kaziranga's grasslands have grown drier and the average height of grasses has diminished over the decades.To restore ecological balance, efforts should be made to plant thousands of *Albizia procera* saplings (aged 3–4 years) at the onset of the monsoon amid tall grasses, increasing their chances of survival. Given the species' prolific seed production, developing large nurseries should be straightforward.

To reduce pressure on forest resources, firewood and fodder plantations should be established on vacant lands in surrounding villages. Recommended species include *Acacia auriculiformis*, *Casuarina equisetifolia*, and *Dalbergia sissoo* for timber and fuelwood, and *Ficus*


NAVEEN PANDEY

Most gibbon species are endangered making conservation vital to their survival

NAVEEN PANDEY

Water monitors are semiaquatic creatures that spend a significant amount of time in the water

auriculata and *Morus alba* for fodder. Community participation in this initiative will be key.

Kaziranga must remain the 'Noah's Ark' of the Brahmaputra floodplain. Dr Sonali Ghosh, Kaziranga's first female Field Director, has inherited one of the most challenging conservation roles in the country. With wetlands threatened by siltation, invasive *Eichhornia crassipes* smothering water bodies, encroachment and political inaction choking wildlife corridors, and the future of the Karbi Hills hanging in the balance, her leadership will be under close watch by the conservation community. Her ability to meet these challenges head-on will define Kaziranga's trajectory in the years to come.

On the morning of January 24, 2023, we observed a tusker – identifiable by the missing tip of his tail, likely lost in a fight – approach a silk cotton tree. Standing perpendicular to the trunk, he used the pointed tip of his right tusk (his left was broken) to pierce the bark. Then, using the tip of his trunk, he peeled off strips of bark and ate them. The winter sun cast a warm, golden hue over the tall grass, and through the hazy sky, the blue outline of the Karbi-Anglong Hills shimmered faintly in the distance.

The tusker fed calmly for about ten minutes, seemingly unbothered by our presence just 15 metres away. As we left the spot, we carried with us the hope that the magnificent Kaziranga Tiger Reserve – with its awe-inspiring landscapes, charismatic species, and extraordinary people – will continue to inspire generations for years to come.

A.J.T. Johnsingh was Senior Conservation Biologist with WWF-India and The Corbett Foundation.

Naveen Pandey is a Conservation Medicine professional from the University of Edinburgh and former Deputy Director and Veterinary Advisor, The Corbett Foundation.

LEARNING FROM THE WILD:

A DAY IN THE HIGH HIMALAYA

Text and Photographs: **Himadri Sekhar Mondal**

Every time I step into the field, I carry with me the hope of learning something new. Nature, I believe, is the greatest teacher we could ever have. It does not just teach us about ecosystems and natural laws – it teaches us about life itself. It shapes character, instils patience, and offers quiet wisdom to those willing to listen.

Over the past 12 years, I have had the golden opportunity to study some of the most beautiful and rare birds – ranging from the critically endangered white-bellied heron and Bengal florican to the vibrant Himalayan monal. My journey has taken me across varied landscapes, from the rainforests of Arunachal Pradesh and the grasslands of Assam to the serene heights of the Sikkim Himalaya.

A winter day in late 2020 stands out, etched in memory. I was in Sikkim for over a year with the project on pheasants and finches. Sikkim is a small state with a stunning diversity of altitudes and habitats. One of our survey routes took us to Lachen in North Sikkim (now Mangan district), and from there we decided to venture farther north to the high-altitude Gurudongmar Lake.

It was the second week of December, and temperatures in Lachen dropped below freezing at night. At 5:00 a.m., while it was still pitch dark and bitterly cold, I set out with my colleagues Atharva Singh and Baleshore Thapa. The car windows were nearly shut to keep out the cold, with just a small gap for air circulation.

After about an hour and a half, we watched as the sky gradually transformed from inky black to violet, and then to streaks of orange, red, and gold in the east. Snow patches on the mountains began to glow with the morning light. Streams on the roadside, partially frozen, flowed sluggishly beneath thin sheets of ice. We spotted white-capped river redstarts near the water, and as we ascended, the alpine landscape took over – bare trees and snow-covered slopes gleaming in the sun.

A scenic drive on the way to Gurudongmar Lake

Despite being layered in sweaters, jackets, thermals, gloves, and caps, we were nearly freezing. We stopped for hot noodles and soup at a local stall in Thangu, the last village before Gurudongmar. At 6:40 a.m., we passed the check post and entered a stark, windswept mountain desert bathed in bright sunlight. We took a less-travelled route to avoid the tourist crowd.

Eventually, we left the car and started walking along the dry, dusty road. At this altitude, oxygen levels are low, so we moved slowly, scanning the barren landscape for birds. Before long, we spotted various finches, horned larks, and Eurasian wrens. On the electric wires strung between poles, flocks of over 250 plain mountain finches gathered, joined by other species of rosefinches and snowfinches.

Not wanting to miss the moment, I removed my gloves to take photos. Within seconds, the cold pierced my fingers, and after just half a minute, I had to get my palms into my gloves, as they were numb. What followed was painful. I had never experienced it earlier. It felt like my hands had been severed at the wrists. After 10 agonizing minutes, my body's thermoregulation strengthened, the pain subsided, and I was finally feeling better.

We walked farther into the high-altitude plains and saw a herd of Tibetan gazelles, their pale rumps and short black tails camouflaged against the desert but just noticeable. Listed as Near Threatened by the IUCN, these graceful animals were a rare sight. Something small darted from the grass – quick as a flash. It popped its head up briefly before vanishing again. After a few attempts, I managed a photo. It was a pika, though I could not determine the exact species. I also saw a few free-ranging dogs, quite bulky in size, near these animals. These dogs are known to pose serious threat for the wildlife in Himalaya.

We finally reached Gurudongmar Lake. Despite the biting wind and a growing tourist crowd, we descended toward the shore. The lake was mostly frozen, and we could hear the crackling sound of ice breaking under the warming sun. Once again, a white-capped river redstart greeted us, this one at an astonishing

Finches on an electric wire

A pack of free-ranging dogs resting near Gurudongmar Lake

Snow pigeons basking in the sun on tree branches

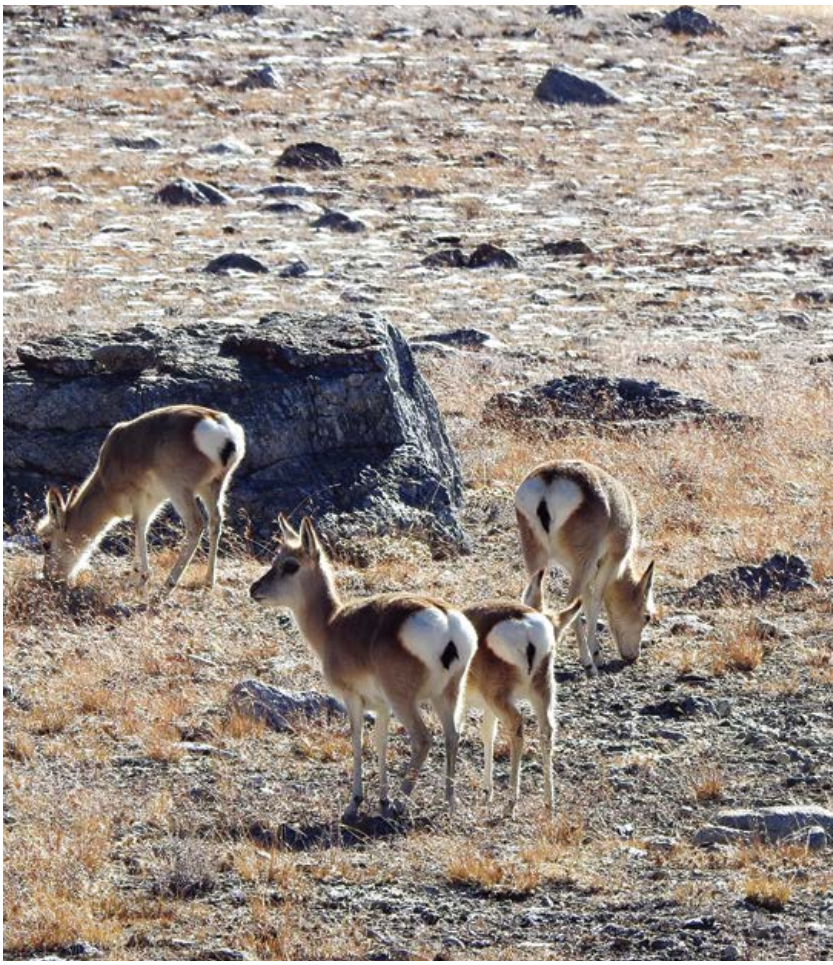
5,425 m above msl. It made me wonder whether this species truly spans the full gradient from foothills to high Himalaya.

Unfortunately, tourist activity – people shouting, running, and even jumping on the ice—drove the birds away. We decided to leave the spot and explore quieter sections of the landscape. I hiked quickly to a ridge, like always, but this time something felt wrong. Unlike previous treks, the breathlessness did not subside. I was experiencing altitude distress. My teammates quickly returned to the car and drove us down to a lower elevation. Once we reached the check post, I felt much better.

On our return journey to Lachen, we were treated to another avian display. Red-billed and yellow-billed choughs wheeled across the sky, occasionally diving to the ground. A common kestrel hovered near a half-frozen stream. Pine trees blanketed in snow appeared, and we walked through a transect where white specks on trees turned out to be snow pigeons. Fog rolled in as we descended, and through it, we spotted an Alpine accentor perched on a rock.

Closer to Lachen, we saw waterfalls turned to ice, shimmering like crystal sculptures. The lush, green landscape we had seen during the monsoon had completely transformed. Suddenly, we spotted a large bird on a roadside tree. Baleshore stopped the car – it was a female kalij pheasant, with grey-brown plumage and striking red wattles around the eyes. We got out to walk again, and a flash of yellow caught my eye in a bush. With binoculars and camera, I identified a female spot-winged grosbeak – its body striped in yellow and black.

By 6:00 p.m., we returned to our homestay. Darkness had fallen, and stars once again lit up the sky. Another day in nature's classroom had come to an end. ■



Herd of Tibetan gazelle feeding on the grass near Gurudongmar Lake

Masters of camouflage, Horned larks blend seamlessly into dirt fields with their brownish-gray plumage

Himadri Sekhar Mondal completed his Ph.D. on the White-bellied Heron. He joined BNHS as a researcher in 2018 and works on projects across Assam, Arunachal Pradesh, and Sikkim.

Colonel George Robert Canning Harris

2nd President of BNHS (1890–1895)

Colonel George Robert Canning Harris, 4th Baron Harris (February 3, 1851 – March 24, 1932), known as Lord Harris, served as the Governor of Bombay from 1890 to 1895. During this period, he also held the position of President of the Bombay Natural History Society (BNHS).

To all aficionados of cricket in Bombay (= Mumbai) and across India, Lord Harris is most remembered for the *Harris Shield* cricket tournament. Established in 1897 and played at the Mumbai school level for over 125 years, the tournament is perhaps best known for the record-breaking 664-run partnership in 1988 between Sachin Tendulkar and Vinod Kambli.

An accomplished English amateur cricketer, Lord Harris captained both Kent County and the England Test team.

Born in 1851 at St. Ann's in Trinidad, George Harris was the only son of George Harris, 3rd Baron Harris, and Sarah Cummins. At the time, his father was Governor of Trinidad (1846–1854), later appointed Governor of the Madras Presidency. The family moved to India, and upon his father's retirement in 1859, George returned to England and was closely involved in the game of cricket.

In 1878–79, Lord Harris was appointed the second official Test captain of England for the tour of Australia and New Zealand, leading the national team in three subsequent series against Australia. He continued to play first-class cricket into his seventies, scoring a fifty at Lord's nearly 53 years into his career. His final match, played at the age of 78, was against the Indian Gymkhana.

In 1895, Lord Harris served as President of the Marylebone Cricket Club (MCC). After his return from Bombay, he continued to serve the MCC as both Trustee and Treasurer in various terms. Most importantly, in July 1909, he joined representatives from England, Australia, and South Africa to launch the *Imperial Cricket Conference* – now known as the International Cricket Council (ICC). In 1926, under his presidency, the ICC included the West Indies, New Zealand, and India as members.

Before his appointment to Bombay, Lord Harris was an active political figure as member of the Conservative Party and in the House of Lords. He served as Under-Secretary of State for India in 1885 and later as Parliamentary Under-Secretary of State for War (1886–1890). In 1890, he was appointed Governor of the Bombay Presidency. Notably, after completing his term, he continued his military service as Colonel of the Royal East Kent Regiment in 1900. He was also awarded the title Knight Grand Commander of the Order of the Star of India in 1895.

His tenure as Governor of Bombay attracted significant criticism, primarily due to his perceived political inexperience and his prioritization of cricket over administrative affairs. He was frequently seen participating in matches with European teams and organizing local competitions. During the 1893 communal riots in Bombay, Lord Harris was reported to have been in Poona playing cricket, returning only on the ninth day of violence – allegedly to attend another match in the city.

Abridged from various public sources.

– Dr Bharat Bhushan
Honorary Secretary, BNHS

Call to Contribute: BNHS 150 Years
"The Book of Indian Tree" – *Systema naturae*

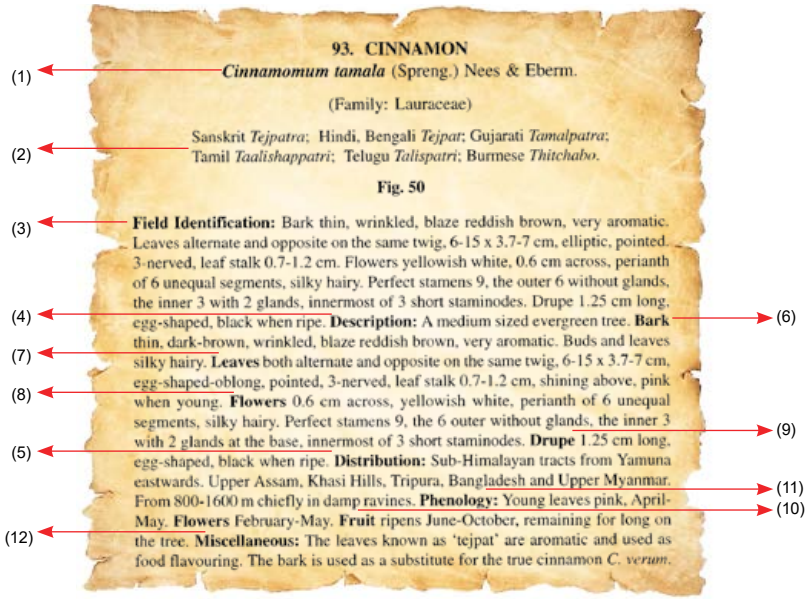
THE BOOK OF INDIAN TREES by Prof. K. C. Sahni, published by the Bombay Natural History Society (BNHS) and Oxford University Press (OUP) in 1998 is actually a concise version of INDIAN TREES by Brandis. The book covers seven countries of the Subcontinent, namely, India, Pakistan, Bangladesh, Nepal, Bhutan and Myanmar, as covered by Brandis, and Sri Lanka.

The author described the relationship between certain animals and their favourite trees, such as those favoured by tigers for cleaning their claws, the trees chosen by the lion-tailed macaque or the ones that provided unique nesting holes for the great hornbills. A 'Miscellaneous' section included information on uses, legends, folklore and ecological notes. The 17 coloured plates by renowned photographers and 70 line drawings and 11 silhouettes has strengthened the value of the book.

This 'India Book' for Indian Trees from the BNHS will also be a significant publication to be revised in time for the Society's Sesquicentennial (150th anniversary) under the *Systema naturae* series. We request the members of the BNHS to support the revision through their contributions in terms of additional notes, new information, changes in nomenclature along with photographs of the species, their habitats and plant communities and provide a concurrent understanding of the conservation status in the different geographical regions of the Subcontinent.

To facilitate this, an example of a species description from the BOOK OF INDIAN TREES is included on this page. This extract serves as a reference for the sections where BNHS members can contribute by submitting revisions, additional notes, new information, herbarium-based locations of collections and photographs of the species and their habitat. A panel of editors will review, validate, and approve submissions for inclusion in the revised edition. All contributors will be acknowledged in the final publication.

The species listed in the 2015 edition, i.e., the last reprint, will serve as a checklist for submissions. Members may also propose the inclusion of additional species based on factors such as conservation status, distribution, endemisms, new discoveries or rediscoveries, endangered status and changes in local abundance or rarities. Web-links, i.e., URLs, to herbaria in India and elsewhere can also be included.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93. CINNAMON

Cinnamomum tamala (Spreng.) Nees & Eberm.

(Family: Lauraceae)

Sanskrit *Tejpatra*; Hindi, Bengali *Tejpat*; Gujarati *Tamalpatra*; Tamil *Taalishappatri*; Telugu *Talispatri*; Burmese *Thitchabo*.

Fig. 50

Field Identification: Bark thin, wrinkled, blaze reddish brown, very aromatic. Leaves alternate and opposite on the same twig, 6-15 x 3.7-7 cm, elliptic, pointed, 3-nerved, leaf stalk 0.7-1.2 cm. Flowers yellowish white, 0.6 cm across, perianth of 6 unequal segments, silky hairy. Perfect stamens 9, the outer 6 without glands, the inner 3 with 2 glands, innermost of 3 short staminodes. Drupe 1.25 cm long, egg-shaped, black when ripe. **Description:** A medium sized evergreen tree. **Bark** thin, dark-brown, wrinkled, blaze reddish brown, very aromatic. Buds and leaves silky hairy. **Leaves** both alternate and opposite on the same twig, 6-15 x 3.7-7 cm, egg-shaped-oblong, pointed, 3-nerved, leaf stalk 0.7-1.2 cm, shining above, pink when young. **Flowers** 0.6 cm across, yellowish white, perianth of 6 unequal segments, silky hairy. Perfect stamens 9, the 6 outer without glands, the inner 3 with 2 glands at the base, innermost of 3 short staminodes. **Drupe** 1.25 cm long, egg-shaped, black when ripe. **Distribution:** Sub-Himalayan tracts from Yamuna eastwards. Upper Assam, Khasi Hills, Tripura, Bangladesh and Upper Myanmar. From 800-1600 m chiefly in damp ravines. **Phenology:** Young leaves pink, April-May. **Flowers** February-May. **Fruit** ripens June-October, remaining for long on the tree. **Miscellaneous:** The leaves known as 'tejpat' are aromatic and used as food flavouring. The bark is used as a substitute for the true cinnamon *C. verum*.

BNHS members are invited to contribute to the following aspects: (1) **Taxonomy**: if the classification has changed or the species is now part of a different sequence of Family-Genus-Species as the case may be, (2) **Local Names**: if any new names validated by regional use or referenced in other publications, (3) **Field Identification**, (4) **Description**: If new details are available, or provided for in other publications, based on bark, leaves, leaf stalk, flowers, drupe, or fruits, among others, (5) **Distribution**: Updates on a species' local or regional records; including new sightings or extension to earlier range or reports of in situ endemism, (6) **Bark**: New information or notes from photographs of seasonal changes or geographical variation, (7) **Leaves**, (8) **Flowers**, (9) **Drupe,** (10) **Fruits**, (11) **Phenology**: New information or notes from photographs or herbarium sheets, or field notes of temporal and location data, and (12) **Miscellaneous**: floristic and/or faunal species-association information, local use by human communities, exploitation or harvest by trade in the species or impact on the habitat and similar notes.

Please note - Contributor should ensure care that the herbarium-related collections and photographs had necessary permissions when conducted in or near Protected Areas. We invite BNHS members to be part of this critical initiative.

– Dr Bharat Bhushan,
Hon. Secretary, BNHS

DEW FLOWERS OF INDIA

Text and Photographs: **Mayur D. Nandikar**

Mayur D. Nandikar is a plant taxonomist and the author of COMMELINACEAE OF INDIA: A TAXONOMIC REVISION AND FIELD GUIDE.

Dew flowers – members of the Commelinaceae family and the *Murdannia* genus – are a quiet but widespread presence across tropical Asia. Commonly called Asiatic dew flowers – named for their delicate, short-lived nature and subtle beauty, much like dew itself – they light up the landscape during monsoon with shades of blue, violet, yellow, and even brick red.

The genus *Murdannia* was named by botanist Royale J. Forbes in honour of Murdan Ali, a herbarium keeper at the Saharanpur Botanical Garden. The type species, *Murdannia edulis*, was described in 1839 in a book on Himalayan flora. Today, this genus thrives across India and Southeast Asia.

These are true Old World flowers, native to tropical Asia. You can spot them by a few key features: their flowers are typically short-lived and radially or bilaterally symmetrical; their stamens (or staminodes) are often bearded; and their seed capsules can contain anywhere from 3 to 40 seeds.

India is home to about half of the world's known *Murdannia* species – 27 out of 54 – each adapted to unique habitats. You will find them nestled in the undergrowth of forests, spread across grasslands and plateaus, or peeking out along coastal belts and agricultural fields. Many species appear only briefly during the rainy season, while others are year-round residents of the lush Western Ghats or the rugged coastal plains.

Twelve species are true monsoon ephemerals, vanishing with the first dry winds. Eight are rare and endemic, found only in small pockets of the Western Ghats. During my own doctoral research, I had the joy of discovering three new species – *Murdannia brownii* in Kolhapur, *M. saddlepeakensis* in the Andaman and Nicobar Islands, and *M. ugemugei* in Maharashtra's Vidarbha region.

In 2011, *M. striatipetala*, with lilac petals streaked in blue, was rediscovered on India's east coast after being lost for over a century.

For over a decade, I've documented three key Commelinaceae genera – *Commelina*, *Cyanotis*, and *Murdannia*. This photo essay highlights 18 *Murdannia* species from peninsular India, detailing their traits, habitats, and origins.

Murdannia zeylanica

Habit: A tuberous herb like *Murdannia japonica*, but can be identified by its broader, wavy leaves and white flowers.
Flower size: 12 mm across.
Flowers: August to February.
Distribution: Southern Western Ghats of India and Sri Lanka.
Habitat: Grows along forest margins, perennial streams, undergrowth, and rocky slopes.
Etymology: The specific epithet denotes its origin from Ceylon (Sri Lanka).

Murdannia edulis

Habit: A perennial herb with tuberous roots, flowering immediately at the onset of monsoon. Identified by linear-oblong to lanceolate rosette leaves. Leafless when it flowers.
Flower size: 15 mm across.
Flowers: June to September.
Distribution: Widespread across Peninsular India, Sikkim Himalaya, and Southeast Asia.
Habitat: Occurs occasionally along forest margins, riversides, undergrowth, and in foothills.
Etymology: The epithet likely refers to its edible tubers, though there is no confirmed record of people eating them.

Murdannia brownii

Habit: An annual, erect herb similar to *M. versicolor*, but distinguishable by its brick-red to pink flowers and 12–15 seeded fruits.
Flower size: 10 mm across.
Flowers: September to November.
Distribution: Endemic to the northern Western Ghats of India.
Habitat: Grows luxuriantly on high-altitude lateritic plateaus in the northern Western Ghats
Etymology: Named in honour of Robert Brown, Scottish botanist and palaeobotanist, for his significant contributions to botany.

Murdannia semiteres

Habit: A small annual herb, with needle like partly cylindrical reddish green, leaves and tiny blue to lilac flowers.
Flower size: 4 mm across.
Flowers: August to October.
Distribution: Peninsular India and Andaman & Nicobar Islands.
Habitat: It grows with the least amount of soil in open situations, sometimes appears to be lithophyte.
Etymology: The epithet '*semiteres*' mainly denotes the half terete leaves.

Murdannia gigantea

Habit: A tufted, perennial herb with thick fibrous roots that anchor it to rocky slopes. Notable for rose-like arrangement of long narrow pointed leaves, axillary flowering scapes.
Flower size: 15 mm across.
Flowers: August to January.
Distribution: India, Sri Lanka, and Southeast Asia.
Habitat: Found on medium to high elevation rocky outcrops and grassy slopes.
Etymology: The epithet reflects its large habit and showy flowers.

Murdannia japonica

Habit: A gigantic, perennial herb with thick fibrous roots. Distinguished by elliptic-oblong basal rosettes, broadly ovate–lanceolate leaves, white to rose-blue flowers.
Flower size: 12 mm across.
Flowers: July to January.
Distribution: Throughout India and Southeast Asia.
Habitat: Occurs in evergreen and semi-evergreen forest margins, undergrowth, moist shady slopes, bamboo plantations, and near watercourses.
Etymology: The epithet indicates its origin in Japan.

Murdannia saddlepeakensis

Habit: A perennial herb, with basal rosette leaves, and axillary flowers. It can be identified with its linear leaves, and single seeded locules.
Flower size: 8 to 10 mm across.
Flowers: September to January.
Distribution: Endemic to Andaman & Nicobar Isalnds (Saddle Peak National Park).
Habitat: Found in rocky slopes, amidst the grassland and stunted forest undergrowth.
Etymology: Derived from the locality from it described firstly.

Murdannia spirata

Habit: An annual herb with both indefinite and definite growth forms, recognizable by small ovate leaves; axillary and terminal lax thyrses; symmetrical blue or mauve flowers (with or without striations).
Flower size: 6 to 8 mm across.
Flowers: Throughout the year.
Distribution: India, Sri Lanka, Southeast Asia, and the United States.
Habitat: Along the roadside, ditches, agriculture fields, and seashores.
Etymology: Though *spiratum* means 'spiral', no spiral structure is present – enantiostyly is common.
Note: One unique form from India's East Coast is recognized as *M. spirata* subsp. *flavanthera*.

Murdannia striatipetala

Habit: Similar to *M. spirata* subsp. *flavanthera* and subsp. *parviflora*, but identified by a definite base, dark-veined petals, and stamen filaments with short appressed hairs.
Flower size: 10 mm across.
Flowers: November to March.
Distribution: Sri Lanka and the east coast of Tamil Nadu, Andhra Pradesh, and Telangana (India).
Habitat: Forms mats in swampy areas, near waterholes, moist sandy sea faces, at elevations of 30–60 m.
Etymology: The epithet denotes striated petals.

Murdannia ugemugei

Habit: Similar to *Murdannia spirata*, but differs in its elliptic, faintly striated petals and more number of seeds.
Flower size: 8 mm across.
Phenology: September to January.
Distribution: Endemic to Maharashtra (Vidarbha).
Habitat: Found along the forest margins, in exposed grasslands.
Etymology: The species named after Professor Ugemuge for his contributions in Flora of Nagpur.

Murdannia lanuginosa

Habit: A tufted, decumbent perennial herb with fusiform tubers. Entire plant cloaked in soft woolly hairs; compact, lanceolate, favulariate leaves with wavy margins; orbicular to obovate petals that change from pink to ochre-yellow to blue.
Flower size: 10 mm across.
Flowers: August to November.
Distribution: Endemic to the Western Ghats of India.
Habitat: Common on lateritic plateaus and grassland slopes between 900–1,600 m elevation.
Etymology: The epithet highlights its lanuginose character, i.e. woolly-haired appearance.

Murdannia loriformis

Habit: A perennial herb resembling *M. simplex*, but differing by its long, strap-like leaves in basal rose-like arrangement, upright scapes bearing small-pediceled flowers that bloom in the morning.
Flower size: 10 mm across.
Flowers: August to January.
Distribution: Peninsular and Northeast India, Tropical Asia, and Malaysia.
Habitat: Found in low to medium elevations along forest margins, roadside ditches, and in partial to fully shaded areas.
Etymology: The epithet refers to the ligulate (*loratus*) basal rosette leaves.

Murdannia pauciflora

Habit: A spreading to decumbent herb identified by low and spreading with elliptic-lance leaves; inflorescences bear just a handful of ochre-yellow to fulvous flowers and inclined to fruit stalk.
Flower size: 7 mm across.
Flowers: August to January.
Distribution: Peninsular India, Myanmar, and Indonesia.
Habitat: Occurs in wet areas of mid- to low-elevation lands (up to 800 m), roadsides, ditches, forest margins, and partially exposed agricultural fields.
Etymology: The epithet likely refers to few-flowered cymes.

Home in the Hills:
Nest Builders of Ranikhet

Text: **Shaafay Khalid and Kaleem Ahmed**
Photographs: **Shaafay Khalid**

Steppe eagle nests are usually made of sticks and lined with grass and feathers

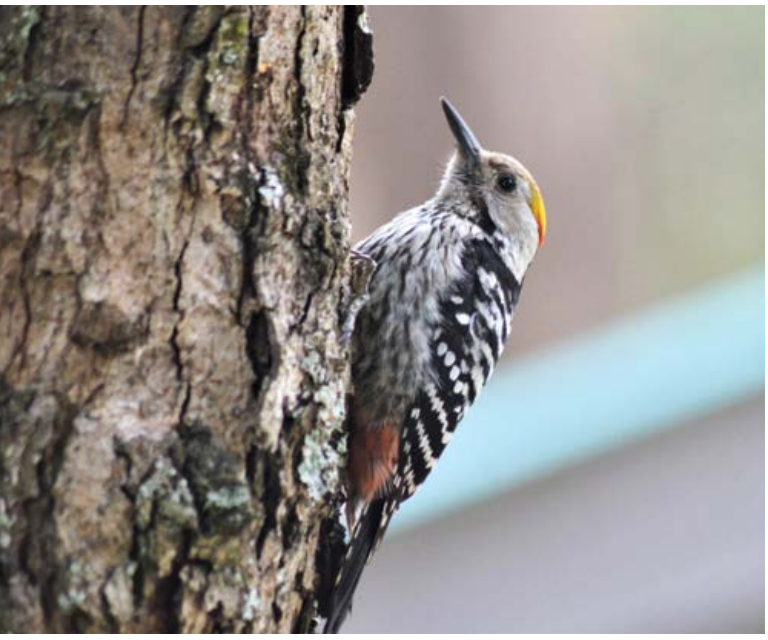
Birds are truly fascinating. With their vibrant plumage, melodic calls, and intricate behaviours, they bring joy to anyone who takes the time to observe them. Birdwatching not only teaches patience and sharpens our observation skills, but also deepens our appreciation for nature's hidden marvels. Yet, the natural world is far more complex than it first appears.

As part of our research into bird nesting habits in Ranikhet, Uttarakhand, we set out to study nest site characteristics between March and May 2023. What we discovered was a feathered haven tucked into the Himalaya – Ranikhet, it turns out, is a nesting paradise.

Ranikhet, in the Almora district, is home to more than 450 bird species. Around the Ardee Estate, our primary study area, we identified over 100 species, including globally threatened ones like the Egyptian vulture *Neophron percnopterus*, steppe eagle *Aquila nipalensis*, tawny eagle *Aquila rapax*, and Himalayan griffon *Gyps himalayensis*.

Beyond its avian richness, Ranikhet's landscape is breathtaking. Towering chir pine *Pinus roxburghii* trees whisper in the breeze alongside silver oaks *Grevillea robusta*, cypresses *Cupressus torulosa*, kaafal *Myrica esculenta*, and Eucalyptus. The region enjoys pleasant weather year-round, with crisp winter skies revealing panoramic Himalayan views. While dense forests, largely managed by the Indian Army's Cantonment Board, dominate the terrain, human settlements are scattered throughout the valleys and hills.

One surprise from our study? Most birds were busiest not at dawn, but in the warmth of the afternoon. Males and females alike were seen busily building nests and feeding chicks under the midday sun. Still, early risers like the blue whistling-thrush *Myophonus caeruleus*, verditer flycatcher *Eumyias thalassinus*, and several warblers greeted the morning with song, while the rufous sibia *Heterophasia capistrata* was often spotted at dusk.



Male of Brown-fronted woodpecker near its nest cavity on a Chir pine trunk

The melodious and piercing call of the Blue whistling-thrush is often mistaken for a human whistle

Cooler weather seemed to delay nesting. It was not until mid-April, as temperatures climbed, that nesting activity really picked up. A reliable sign of this seasonal shift was the appearance of drongos – species such as the black drongo *Dicrurus macrocercus*, ashy drongo *Dicrurus leucophaeus*, bronzed drongo *Dicrurus aeneus*, and hair-crested drongo *Dicrurus hottentottus* – absent early in the season, began to show up with the warming days.

Birds proved highly intelligent and cautious, especially when feeding their fledglings. Many were extremely vigilant, sometimes avoiding their nests altogether if they sensed they were being watched. The grey bush chat *Saxicola ferreus*, for example, often lingered near its well-hidden nest, concealed in low bushes, until it felt safe to return.

Curiously, we found more nests near human settlements than in the denser forest patches. This may be due to the relative abundance of food and the reduced presence of natural predators in areas frequented by humans.

Among all the species, the russet sparrow *Passer cinnamomeus* was the most prolific nester. Most of their nests were tucked into cavities in chir pine trunks. Some trees held multiple nests, even from different species. On snags of chir pine and silver oak, we saw russet sparrows nesting alongside great barbets *Psilopogon virens* and brown-fronted woodpeckers *Dendrocoptes auriceps*. Near Kilkot, a forest patch close to human habitation, the nests of Russet sparrows, bar-tailed treecreepers *Certhia himalayana*, and black-headed jays *Garrulus lanceolatus* were plentiful.

Natural cavities in chir pines were popular nesting sites, but artificial cavities – created during resin tapping – were generally avoided. Their wide openings and sticky resin made them unsuitable. However, natural tree holes were occupied by species like the bar-tailed treecreeper, ultramarine flycatcher *Ficedula superciliaris*, green-backed tit *Parus monticolus*, and Himalayan black-lored tit *Machlolophus xanthogenys*. Interestingly, while we only found one cinereous tit *Parus cinereus* nesting in a tree cavity, others used deep ground hollows or crevices between rocks. Grey bush chats preferred nest sites beneath shrubs, camouflaged in leaf litter.

Raptors were well-represented too. Steppe eagles and Indian jungle crows *Corvus culminatus* nested in good numbers, while scavengers and predators like the Egyptian vulture, Himalayan griffon, crested serpent-eagle *Spilornis cheela*,

mountain hawk-eagle *Nisaetus nipalensis*, black eagle *Ictinaetus malaiensis*, Eurasian kestrel *Falco tinnunculus*, and tawny eagle were frequently seen circling above Ranikhet's garbage dumping sites.

These observations highlighted not just the beauty, but also the intelligence and adaptability of birds. Their nesting behaviours, shaped by temperature, habitat, and human influence, offer deep insights into their survival strategies. For us, it was not only a scientific investigation, but a humbling and awe-inspiring experience.

Throughout the day, the calls of parakeets filled the air. The slaty-headed parakeet *Psittacula himalayana* announced itself with a piercing shriek, while the plum-headed parakeet *Psittacula cyanocephala* added a soft 'blip' to the forest chorus. Nests of both species were found mostly in eucalyptus trees, whether living or dead. One exception was a plum-headed parakeet that chose a wild Himalayan pear *Pyrus pashia* tree, sharing its space, though not its direction, with a brown-fronted woodpecker's nest.

But not all cohabitation was peaceful. One day, we observed a male scaly-bellied woodpecker *Picus squamatus* exploring a eucalyptus snag with active woodpecker nests. As he approached a Himalayan woodpecker's cavity, one of the parents emerged and drove him off in a burst of aggression. In another episode, a lesser yellownape *Picus chlorolophus* engaged in a fierce skirmish with a Himalayan woodpecker – again, the latter stood its ground.

In built-up areas, barn swallows *Hirundo rustica* and house sparrows *Passer domesticus* thrived. Swallows fashioned their nests from clay and mud, attaching them to the eaves of houses and shops.

A Bar-tailed treecreeper carrying food for its fledglings

Locals often welcomed them, offering water and food, believing them to bring good fortune. House sparrows made use of wall crevices and holes in buildings for nesting.

Nesting is critical to bird survival. A secure nest boosts the odds of raising young successfully. Birds chose their nest sites with care and responded fiercely to perceived threats. Their choices reflect a delicate balancing act, optimizing safety, minimizing competition, and ensuring access to resources.

Still, much remains to be understood. Despite all we observed, many questions about avian nesting behaviour remain unanswered. A longer, more comprehensive study could reveal even deeper insights into these remarkable birds and the ecosystems they inhabit.

Shaafay Khalid is Research Scholar in the Department of Wildlife Sciences at AMU, studying high-altitude birds since 2023. He was formerly affiliated with the Wildlife Institute of India.

Kaleem Ahmed is an Assistant Professor in the Department of Wildlife Sciences at AMU, with expertise in avifauna, biodiversity conservation, protected area management, and research on Himalayan ecosystems.

Sunjoy Monga, the quintessential naturalist, writer, and photographer, is no more.

I first met Sunjoy in 2000, when as a new BNHS member I attended my first programme at the BNHS-CEC auditorium. Sunjoy stood in the aisle near the back rows, addressing the large audience. All heads turned toward him, listening intently to the well-modulated voice of a distinguished-looking, bearded naturalist.

Over the next 25 years, we met regularly and became the closest of birding buddies and the best of friends. Our minds connected deeply, and our steadfast friendship only grew stronger. Nearly every Sunday, we explored nature in and around Mumbai. Although we walked many trails on the Borivali side of Sanjay Gandhi National Park (SGNP), his all-time favourite route was from the CEC to Vihar Lake. We walked that path countless times, in every season, each tree and turn holding a special memory. Sunjoy enthralled us with anecdotes and stories from the wild, while I honed my field crafts and observation skills, learning from his methodical approach. He had a special fascination for the House Crow –its social behaviour and intelligence.

Born on March 7, 1962, in Mumbai, Sunjoy began birding at the age of six, drawn to the pristine wilderness in his neighbourhood. He grew up exploring the nearby SGNP and eventually authored a coffee-table book about it titled City Forest – a name he coined for the Park. Later, he became SGNP's Honorary Warden.

Sunjoy's association with the BNHS began early. He learned from stalwarts like Dr Sálim Ali and Mr Humayun Abdul Ali. In many ways, he grew with the BNHS, forming personal bonds with the faculty and board members, including a close relationship with

Sunjoy Monga

March 7, 1962 – May 28, 2025

then-Director Dr Asad R. Rahmani. He served on both the Executive Committee and the Hornbill magazine's editorial board.

Thanks to his dedication and people skills, Sunjoy developed strong ties with the Forest Department at SGNP, which enabled him to conduct a two-year bird census project in the park's core area. I had the privilege of being part of that team, an experience that transformed my casual interest in birdwatching into a deep passion.

A prolific writer and conservationist, he authored nearly 20 books and wrote regularly for *The Times of India* and *Hindustan Times*, as well as numerous magazines. I especially loved his weekly feature in *Mid-Day*, which brought alive the life stories of bird species from Mumbai. His words reached a wide flock of nature lovers and birdwatchers, inspiring them with his insights.

He knew the birds of the Mumbai region like no other, publishing two popular field guides on the subject. He also contributed a column on birding in Mumbai in the Lonely Planet: India (13th edition). His explorations of nature hotspots around Mumbai, and wildlife reserves across India, culminated in the informative handbooks THE MUMBAI NATURE GUIDE AND WILDLIFE RESERVES OF INDIA. Later, he created a coffee-table book titled JOURNEYS THROUGH INDIA'S LAST WILD PLACES, a personal account of his travels. I was fortunate to accompany him on many of his book research trips, both around Mumbai and across India – from Uttarakhand to Kerala. He generously acknowledged my contributions in his book credits.

His photography skills, even in the pre-digital era, were unmatched. He won second prize in the 1991 BBC-British Gas International Photographer of the Year competition. He worked as a cameraman and consultant for the Channel 4 documentary series Wild India, and served as Indian consultant for Sir David Attenborough's BBC series 'The Trials of Life'. His photo-stories stirred wonder and a passion for conservation.

He served on the Godrej Foundation advisory panel and accompanied Prince Charles on a nature tour of the Godrej Vikhroli mangroves. He was former associate editor of Sanctuary and Cub magazines, and had early ties with WWF and CRY India.

In 2005, Sunjoy introduced the concept of Bird Races to India, with HSBC's support – a Mumbai initiative that grew into one of India's largest citizen-led biodiversity movements, now held in over 14 cities and multiple states.

With a childlike curiosity for nature, Sunjoy was passionate about nurturing environmental awareness among children. In 2007, he launched the 'Young Rangers' initiative across more than 50 schools in Mumbai. His book KIDZBIRDS, a unique, narrative-driven concept for learning, was widely appreciated for its fun and educational approach.

He also had a fascination for owls and built an extraordinary collection of over 500 owl figurines from around

the world – some of which I happily contributed during my travels. One of the largest collections in India, it symbolises his curiosity and affection for the unusual.

A naturalist par excellence, Sunjoy was style and elegance personified. This was evident in everything he did – his books, his projects, his mannerisms. His charm and wit left a lasting impression on everyone who had the privilege of knowing him.

Diagnosed with blood cancer in 2016, he fought valiantly for nearly a decade. His love for birds remained undiminished till the end. When his health no longer allowed him to go outdoors, he continued to watch garden birds through the dense canopy outside his window – binoculars and camera always within reach. He passed away on May 28, 2025. Sunjoy is survived by his wife Jyoti and daughter Yuhina (named after a bird), both steadfast pillars of support in his remarkable life.

He touched my mind and heart deeply, leaving behind a personal void that can never be filled. The Naturalist has now become one with Nature. While his spirit soars in the heavens among the birds he so dearly loved, Sunjoy will live on – on our bookshelves and forever in our hearts.

– Dr Salil Choksi, MD
BNHS Member since 2000

Dr Saramma Marselin Almeida
February 22, 1940 – June 15, 2025

We are deeply saddened to share that Dr (Mrs) Saramma Marselin Almeida passed away on June 15, 2025. She was not only a brilliant botanist and dedicated educator, but also a mentor, guide, and second mother to many of us – myself included.

She played a profound role in shaping who I am. She introduced me to the world of taxonomy, the craft of teaching, and the quiet strength of humility. I had the honour of being her first MSc (Research) and Ph.D. student, and I served as Curator of the Blatter Herbarium under her guidance from 1983 to 1991.

Dr Saramma was born on February 22, 1940, in Maramon, Kerala, to Mr Thomas and Mrs Sosamma Verghese. After graduating from St. Thomas College, Kozhencherry, she moved to Mumbai to pursue her MSc in Botany (specialising in Phycology) at St. Xavier's College, where she graduated in 1964. She began her career as a Demonstrator at Xavier's and was appointed Lecturer in 1975. Inspired by the legendary Rev. Fr. H. Santapau, she transitioned from algae to flowering plants and began her Ph.D. on the 'Flora of Sawantwadi' under former President, BNHS, Prof P.V. Bole – a thesis she completed in 1986 and later published in 1990.

In 1971, she married Prof Marselin R. Almeida – her colleague, fellow taxonomist, former Vice President, BNHS, and life partner. Together, they formed an extraordinary team: curious minds and kind hearts, working side by side in the field of Indian flora. They explored the HORTUS MALABARICUS, published extensively, and proposed 77 new names in Indian flora, including 12 new species and 75 new records for Maharashtra. In a gesture of love and scientific respect, Prof Almeida even named a species after her: *Tephrosia sara almeidii*.

While Dr Almeida focused on teaching, mentoring postgraduates, and running the Blatter Herbarium, Prof. Almeida concentrated on his life's work – revising the FLORA OF MAHARASHTRA. Their research paths were distinct, yet they shared a deep passion for plants and knowledge.

She served as Head of the Department of Botany at St. Xavier's College (1982–2000) and as Director of the Blatter Herbarium (1984–2003). She introduced the Botany Honours Programme, reintroduced the M.Sc. in Botany, and led several research projects funded by DST, BSI, UNDP, and others. These included the Flora of Ratnagiri, studies on medicinal plants in western Maharashtra, ethnobotanical work with tribal communities in Goa, and ecological assessments for RCF and other organisations.

Dr Almeida was not just an academic powerhouse – she was a devoted teacher and an active contributor to college life. She served on numerous committees at St. Xavier's and played a pivotal role in shaping the BSc and MSc Botany syllabi at the University of Mumbai through her service on the Board of Studies (1990–93, 1996–2000). She also mentored M.Sc., M.Phil., and Ph.D. students and reviewed doctoral theses for universities across India.

She published 35 research papers and four books, established the Carpology Centre at the Blatter Herbarium in 1992, and was a life member of various scientific societies. She also served on the Executive Committee of the Bombay Natural History Society (1998–2002; 2006–2008).

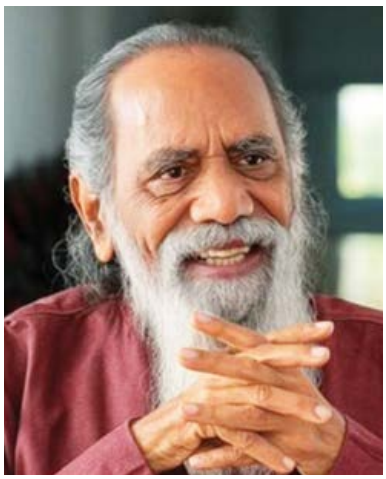
In recognition of her contributions, she was awarded the Fr. Santapau Gold Medal in Plant Taxonomy (1998–99) and honoured by many institutions, including the South Ratnagiri District Shikshan Prasarak Mandal, Sawantwadi.

To celebrate their shared legacy, the "S.M. and M.R. Almeida Award for Best Paper in Plant Taxonomy" has been instituted by the Indian Association of Plant Taxonomy – a fitting tribute to two lives devoted to plants, people, and purpose.

Her passing is a tremendous loss – to her children Alice, Anju, and Thomas; to the botanical community; and to all of us who were fortunate to know her warmth, brilliance, and grace.

Rest in peace, Dr Saramma. You will always be remembered – in every herbarium sheet, every field trip story, and every student you shaped.

– Dr Rajendra D. Shinde
Former Principal, St. Xavier's College, Mumbai



Maruti Bhujangrao Chitampalli
November 5, 1932 – June 18, 2025

Avid birder, forest officer, and renowned Marathi writer, Shri Maruti Chitampalli passed away in Solapur, Maharashtra, on June 18, 2025, at the age of 93.

I first met Shri Chitampalli in 1988 as a student, when he was serving as the Divisional Forest Officer (DFO) in Chikhaldara, part of the Melghat Tiger Reserve. As a teenager, I was deeply inspired by his speech – it sparked a lifelong love for forests and nature within me. Later, in 1994, I had the opportunity to meet him several times while inviting him to the Vidarbha Bird Watchers' Meet in Amravati, where he was to be felicitated in recognition of his invaluable service to the environment.

I met him again in January 2013 at the Maharashtra Bird Watchers' Meet, also held in Amravati. After listening to my speech, he expressed a tinge of regret – that despite dedicating his entire life to the Forest Department, he never had the chance to see forests abroad.

Shri Chitampalli was born in Solapur, Maharashtra. He completed his schooling at T.M. Pore School and pursued his higher education at Dayanand College in Solapur. In 1958, he underwent Range Forest Officer (RFO) training at the State Forest Service College in Coimbatore. His field visits during training took him to Bangalore, Delhi, Kanha National Park, and Dehradun. Over his 36-year-long career in the Maharashtra Forest Department, his passion for wildlife inspired not only his colleagues but also countless citizens, including young nature enthusiasts like me.

Before retiring as a DFO, he left an enduring legacy through his work in Karnala WLS, Navegaon NP, Nagzira WLS, and Melghat TR. Uniquely, he was also a gifted writer, authoring 25 popular Marathi books on birds, forests, wildlife, and nature – making complex ecological themes accessible and inspiring to the general public.

The Government of Maharashtra recognized his contributions by issuing a gazette notification to observe Bird Week from November 5 to 12 every year. November 5 marks his birthday, while November 12 commemorates the birth anniversary of the legendary ornithologist Dr Sálim Ali.

In 2023, when I took charge as Director of the Bombay Natural History Society (BNHS), I visited Solapur on Shri Chitampalli's birthday to honour him on behalf of BNHS. In 1963, as a young wildlife enthusiast, he had written a letter to Dr Sálim Ali seeking guidance on English-language books about birdlife. Dr Ali replied, recommending that he refer to the Maharashtra Government's *Gazetteer on Flora and Fauna*, compiled in collaboration with BNHS. Their correspondence continued over the decades.

I felt that there could be no better gift for Shri Chitampalli than a copy of that rare letter exchange. So I drove to Solapur and personally presented it to him. It was an emotional meeting – he was visibly moved to receive the letter he had once written to Dr Ali and expressed joy that one of his admirers had now taken the helm of BNHS. He mentioned his wish to visit the Society someday, though given his health, I knew this might not be possible.

This year, in 2025, nature lovers across Maharashtra were overjoyed to see him receive the Padma Shri Award from the President of India – a long-overdue honour for his lifetime of service.

As the author of 25 wildlife books and the President of the Marathi Sahitya Sammelan in Solapur in 2006 – a rare feat for a conservationist – Shri Maruti Chitampalli will continue to inspire generations to join the cause of nature conservation.

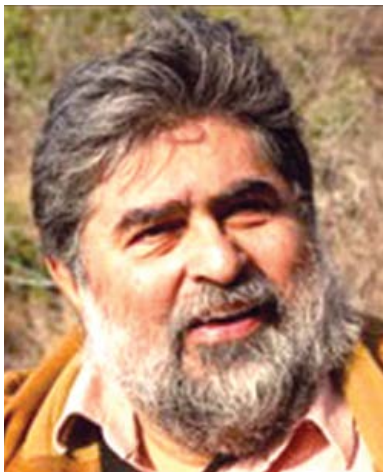
– Kishor Rithe
Director, BNHS

The voice that kept tigers roaring in Indian Jungles has fallen silent; the anger for conservation seems extinct! India's tigers lost a true friend on May 31, 2025, when Valmik Thapar passed away after a brave and prolonged battle with cancer.

I can vividly recall over three decades of his tireless efforts to protect and rebuild India's tiger population. I was just 22 when my mentor, Bittu Sahgal, introduced me to Valmik Thapar. At the time, I had taken on the challenging task of raising awareness about encroachments in the Satpuda tiger corridors by launching the Save Satpuda movement. As part of my outreach, I visited several cities, including Mumbai. Bittu Sahgal, ever supportive, promised financial help through *Sanctuary* magazine and called Valmik Thapar for assistance. Valmik agreed within two seconds and disconnected the call.

A year later, I returned to Mumbai – this time to request the first motorboat for Pench Tiger Reserve to combat illegal fishing activities. Once again, Bittu Sahgal contacted Valmik, who was in England at the time. Without hesitation, he promised to provide a motorboat through "Care for the Wild International." True to his word, the boat arrived within a month. For tiger conservation, Valmik Thapar was like a blank cheque – always ready to help without questions.

He was impressed with my work in Vidarbha and personally visited Nagpur to present me, along with Kishor Mishrikotkar and S.K. Patil, with the Tiger Link Award in 1997. Rather than offering money, he promised me a Maruti Gypsy, which arrived a month later – with the clear caveat that I would need to arrange for fuel expenses myself. When I needed legal



Valmik Thapar

September 5, 1952 – May 31, 2025

support to fight illegal fishing in Pench at the Supreme Court, Valmik arranged pro bono services from Advocate Raj Panjwani. Whenever I needed help for tiger conservation, he was there.

I battled numerous threats to tiger habitats – illegal fishing in the Tawa reservoir of Satpuda, in Pench, tiger poaching in Maharashtra, proposed mining near Tadoba, the denotification of Melghat Tiger Reserve, and proposed diamond mining in Udanti Tiger Reserve. Valmik supported me through his wide and influential network.

In my early years, around 1998, he sent me to Dr Ullas Karanth in Nagarhole to learn wildlife population estimation techniques. In 1999, I fought against the Melghat administration for allowing a blacktop road through the core area and for failing to curb poaching. At the time, the Field Director and Chief Wildlife Warden made oral complaints against me, which were brought up during Valmik and then-Director of Project Tiger P.K. Sen's visit to Melghat. Valmik gave me a stern lesson – to avoid direct confrontations with senior officers. It was a tough pill to swallow.

He invited me to the Tiger Link conference in New Delhi in 1995, where he introduced me to conservation stalwarts like Fateh Singh Rathore, Billy Arjan Singh, S. Deb Roy, P.K. Sen, Ullas Karanth, Belinda Wright, M.K. Ranjitsinh, A.J.T. Johnsingh, Divyabhanusinh Chavda, Ashok Kumar, and others, including representatives from international agencies like the U.S. Fish and Wildlife Service. That exposure in my early conservation years proved invaluable. For 15 years, Valmik ran the Tiger Link network and newsletter, connecting stakeholders across the spectrum – policymakers, NGOs, and the media.

He served on the National Board for Wildlife, was a wildlife expert on the Central Empowered Committee (CEC) of the Supreme Court of India, and contributed to several other national committees – always standing up for India's voiceless wildlife.

I met him frequently when he chaired the Conservation Committee of the Bombay Natural History Society (BNHS). He was clear, sharp, and action-oriented. But his fierce working style and uncompromising approach didn't align with the BNHS ethos, and he eventually stepped down. I succeeded him as chairman after his resignation. Around 2015–16, he began losing faith in NGOs – despite running the Ranthambhore Foundation himself – and gradually distanced himself from organizational networks.

Valmik Thapar and Ranthambhore were inseparable. Yet he extended his efforts to any tiger reserve that needed him. A graduate of St. Stephen's College, his transformation began in the mid-1970s after encountering Ranthambhore's majestic tigers and

befriending its legendary field director, Fateh Singh Rathore. Both were passionate and outspoken about wildlife.

Valmik authored, co-authored, and edited around 32 books on tigers, nature, and conservation, and helped produce several acclaimed documentaries, including the *Land of the Tiger* series for the BBC, where his narration showcased his exceptional storytelling ability.

Through the Ranthambhore Foundation, he supported around 100 villages near the reserve – promoting primary healthcare, stall-fed dairy development, land rewilding, and vocational training through the Ranthambhore School of Art. He also collaborated with Dastkar, an NGO working with rural artisans, to create sustainable livelihoods.

He was appointed by Prime Minister Dr Manmohan Singh to the Tiger Task Force, where Sunita Narain served as Chairperson. Even there, his voice remained firm and independent.

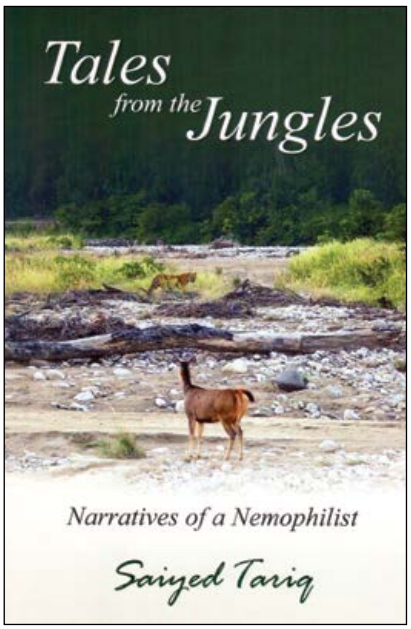
Valmik was also one of the few conservationists who strongly opposed the introduction of cheetahs into Kuno National Park. In his 2013 co-authored book EXOTIC ALIENS: THE LION AND THE CHEETAH IN INDIA, he raised serious questions about the presence of these species in India's ecological history.

Valmik was only 73, with many dreams for the future of tiger conservation. That fight will now be carried forward by the many people he inspired – especially in Rajasthan, Karnataka, and central India.

Our deepest condolences go to his wife Sanjana Kapoor, his son Hamir, and the rest of the family.

Though Valmik Thapar has left this world, his spirit will always linger in the forests of India. His books and films will continue to ignite the passion of thousands.

– Kishor Rithe
Director, BNHS



Tales from the Jungles:
Narrative of a Nemophilist
by Saiyed Tariq
Self-published: Lucknow, 2025
Size: 21 x 15 cm
Pages: xii+162
Price: ₹ 500/-
Paperback

Reviewed by: **Asad R. Rahmani**

I have read many natural history books and essays written by seasoned writer-naturalists – works grounded in years of professional experience and rich in deep insight. So, stumbling upon a captivating read by an amateur naturalist – who also happens to be an orthopaedic surgeon – was an unexpected delight.

At first glance, I assumed it was just another tiger tale spun by a hobbyist infatuated with the charisma of tigers, the mystique of Corbett National Park, jungle lore, and wildlife photography. The cover photograph didn't help much either. Initially, it looked like the back of a Sambar deer. But look again: the deer is actually staring straight at a tiger hidden in the tall grass. Suddenly, the image becomes compelling – and so does the book. You just need to look a little deeper to appreciate it.

I must admit, TALES FROM THE JUNGLES is one of the most enjoyable books I have read in recent years. The title intrigued me right away, but it was the subtitle that caught me off guard with a word I did not know: nemophilist. It shook my confidence in my vocabulary. A quick search revealed that a nemophilist is someone who loves forests – a 'haunter of the woods' who finds solace in nature. How had I, a lifelong nature lover, never come across such a beautiful word? It was a reminder that there is no age limit to learning.

The book chronicles the personal experiences of a young man who grew up during a time when hunting was still socially acceptable. Yet he soon traded his gun for binoculars and a camera, choosing to immerse himself in the wilderness at every opportunity. I found myself relating easily to his journey, having visited many of the same forests he writes about – from the famed Dhikala range in Corbett to the lesser-known Nandhaur in the lower Himalaya. Much of his story unfolds in Dudhwa and Corbett, both familiar ground for me, especially Dudhwa, where I have worked since 1984. While I do not know Corbett as intimately, I could still connect

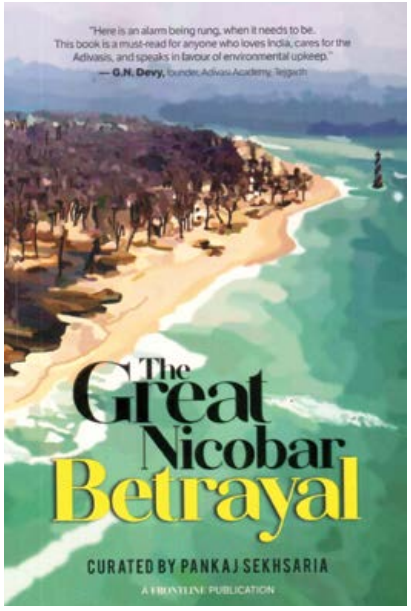
with Tariq's many adventures in that enchanting landscape.

The book's style is simple and direct. Each chapter recounts a personal encounter – whether shared with friends or family, or experienced alone – but always in the company of wild animals. The pages are sprinkled with intriguing, sometimes unusual, words that occasionally sent me reaching for the dictionary. One such gem was *coddiwomple*, meaning to travel purposefully toward an unknown destination. It appears brilliantly on page 74, when Tariq's jeep gets stuck in a stream at midnight and his friend Sadiq ventures off for help. Tariq writes, "He crossed the stream and *coddiwompled* off into the darkness, leaving us with the queries yet forming in our minds."

Tariq even coins his own delightful terms. On pages 84–85, he introduces *hank*, a neologism for a handshake between human and elephant. "The big leading elephant, probably a matriarch, was so close that if I had stretched out my hand and the elephant had stretched out its trunk, we could have shaken *hanks*. It is a wonderfully imaginative touch. On the same page, he describes a family of wild boars trotting off with their 'effeminate hooves'. Surprisingly apt – those heavy, barrel-bodied creatures do indeed have dainty, narrow hooves that appear almost delicate, especially when they move with that familiar, trotting gait. I will never see a wild boar the same way again.

Another endearing element of the book is its use of black-and-white photographs with faded edges and subtle tonal variations, evoking the feel of treasured family albums – fragments of a bygone era. Their nostalgic charm is hard to resist. Toward the end, the book also includes more conventional photographs of species, habitats, and landscapes.

It would not be an exaggeration to place TALES FROM THE JUNGLES alongside the works of Jim Corbett or the elegant essays of M. Krishnan. I wholeheartedly recommend it to anyone with an interest in nature and personal storytelling. I am not sure where the book is available – perhaps on Amazon or through a local bookseller – but I do know the BNHS library has a copy. It is priced at ₹ 500, but its true value goes far beyond that.


"Here is an alarm being rung, when it needs to be. This book is a must-read for anyone who loves India, cares for the Adivasis, and speaks in favour of environmental upkeep."
— G.N. Devy, founder, Adivasi Academy, Tejgadh
The Great Nicobar Betrayal
CURATED BY PANKAJ SEKHSARIA
A FRONTLINE PUBLICATION

The Great Nicobar Betrayal
by Pankaj Sekhsaria
Published by: THG Publishing Private Ltd., 2024
Size: 21 x 13.5 cm
Pages: 100
Price: ₹ 499/-
Paperback

Reviewed by: **Asad R. Rahmani**

Pankaj Sekhsaria is a tireless advocate for environmental protection, particularly in the Andaman & Nicobar Islands. I first heard him speak during a talk at BNHS, where he passionately discussed the infamous Andaman Trunk Road (ATR) – a road that, quite literally, cuts through the heart of the Jarawa tribal territory. His foresight then – that the Jarawas would never be the same again – is now, tragically, proving true. Worse still, this pattern of disregard is being repeated across the Andaman and Nicobar archipelago.

The ATR was conceived in the 1970s and became operational by the 1990s, despite fierce opposition. The Jarawa tribe strongly resisted its construction, and even after completion, the conflict continued. During its construction, several Jarawas lost their lives to electric fencing meant to 'protect' workers. In retaliation, members of the tribe attacked and killed some travellers. In 2002, the Supreme Court ordered the road closed – but the directive was never followed. Proposals for an alternative coastal route were brushed aside. The Indian government justified the road's continued use in the name of national security – a familiar excuse. In reality, the ATR has opened the floodgates for poachers, timber mafias, settlers, and tourists to encroach on the Jarawas' ancestral lands. Numerous disturbing images and videos have surfaced – one particularly appalling clip, filmed by a policeman for his guests, showed semi-naked Jarawa women dancing. I was horrified to witness people throwing bananas and biscuit packets

from a bus to Jarawas standing by the roadside, as if they were zoo animals.

Now, failing to learn from past mistakes, we stand on the brink of an even graver error: the so-called Great Nicobar Project. While the project has been widely reported in the media, Sekhsaria's book captures its full scope up to 2023, presenting a deeply alarming picture for anyone concerned with biodiversity or indigenous rights. Yet the Indian government appears resolute. The project will directly destroy 178 sq. km of dense tropical rainforest and indirectly affect much more across the island's 921 sq. km.

I have had the privilege of visiting Nicobar twice. Nowhere – not even in Malaysia or Africa – have I encountered such rich biodiversity. I ventured only as far as researchers are permitted, yet what I saw was breathtaking. The forest canopy was so dense that sunlight barely reached the forest floor. From a dirt track, I spotted two or three endemic bird species before voluntarily turning back, out of respect for the land's sacred significance to the Nicobaris and the Shompens – the two tribal communities inhabiting the island.

Recognizing the region's unique ecosystem, the Government of India once established the Nicobar Biosphere Reserve – a model for coexistence between humans and nature. Two protected areas, Campbell Bay and Galathea National Parks, were created to shield the island from exploitation. Together, these formed a near island-wide sanctuary, safeguarding about 900 sq. km of forest for the tribal inhabitants and native species.

But that protection is now under threat. Today, around 8,000 mainland settlers live on the island. If the project proceeds, that number could swell into the lakhs, irreversibly altering the island's ecology and demography. The plan includes an international container trans-shipment terminal, an international airport, township and area development, and a power plant. The goal is to build infrastructure for wealthy tourists – who will fly into a new international airport to 'experience nature' from the comfort of luxury villas – all under the familiar guise of 'development' and 'national security'.

THE GREAT NICOBAR BETRAYAL is a meticulously curated compilation of writings published in various magazines and news portals. In just 100 pages, it explores the environmental, legal, and human rights dimensions of the project, laying out a clear timeline up to March 2024. Innocently dubbed the 'Holistic Development of Great Nicobar Island', this ₹ 80,000 crore mega-scheme is set to be executed over three decades. It promises to 'develop' a million-year-old rainforest. Ironically, the compensatory afforestation is proposed in the dry, degraded Aravallis of Haryana – an absurd trade-off for rainforest loss in a region that receives over 3,500 mm of rainfall annually. I would have laughed – if it were not so tragic.

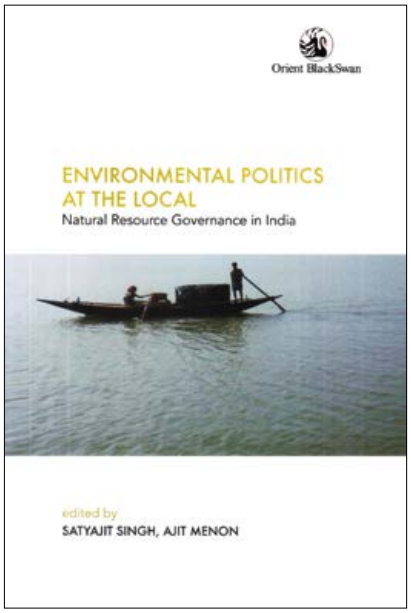
And it gets worse. Over 10 million trees will be felled. For the island's endemic, hole-nesting owls, the plan is to "identify and geo-tag trees with SACON's help and preserve them where feasible". It is disheartening to see the legacy of Dr Sálim Ali reduced to such tokenistic gestures, especially from an institution once held in such high regard. Another gem from the Ministry of Environment, Forest and Climate Change (MoEF&CC): on November 11, 2022, it approved an international trans-shipment port at Galathea Bay – home to critical nesting sites of the endangered leatherback turtle. The proposed solution? Redirect the turtles to nest elsewhere. To facilitate this, Galathea National Park was quietly de-notified in January 2021 – months before the MoEF&CC's own consultant, AECOM India Pvt. Ltd., submitted its prefeasibility report in March 2021. So much for bureaucratic delays – speed seems to come easily when the goal is environmental destruction.

The book features 13 chapters by various experts and five annexures, leaving no stone unturned. A map included in the text shows the project components sprawling across the island – shockingly, one-fourth of Great Nicobar's coastline will be taken over, including vital turtle nesting beaches, Nicobar megapode habitats, and the traditional fishing zones of local tribes. After reading this book, it is impossible not to feel a sense of outrage and sorrow at the high-handedness of those making decisions about lands and lives that are not theirs to command. What became of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006? Or the A&N Islands' Directorate of Tribal Welfare? Or the 751 sq. km tribal reserve designated for the Shompens? Or the CRZ Notification under the Environment (Protection) Act, 1986?

And what about the resolution of the UN's Conference of the Parties (COP), which aims to protect 30% of the world's land and marine ecosystems by 2030? India has signed this agreement, committing to halt biodiversity loss – yet we are preparing to sacrifice one of the world's most pristine tropical forests.

In the years to come, when opulent resorts stand on what was once sacred ground for the Nicobaris, Shompens, leatherback turtles, Nicobar megapodes, and the Nicobar owl, history will remember Pankaj Sekhsaria, Manish Chandi, Ajai Saini, Norma Alvares, Vaishna Roy, and others who dared to resist. They fought – not for profit, but for justice, for nature, and for the rights of the voiceless. Not everyone chose betrayal.

But who will remember the bureaucrats and political architects responsible for this ecological catastrophe? Your guess is as good as mine. The dustbin of history is rarely kind to such people.



Environmental Politics at the Local: Natural Resource Governance in India
by Satyajit Singh, Ajit Menon
Published by: Orient Black Swan, 2024
Size: 29 x 22 cm
Pages: xiv +351
Price: ₹ 600/-
Hardbound

Reviewed by: **Kishor Rithe**

The title ENVIRONMENTAL POLITICS AT THE LOCAL: NATURAL RESOURCE GOVERNANCE IN INDIA immediately caught my attention, and I felt compelled to read it. Having spent nearly 35 years working at the grassroots level with a wide range of stakeholders, I was eager to explore environmental politics through the lens of the authors, Satyajit Singh and Ajit Menon. Satyajit Singh is a professor at the University of California, Santa Barbara, USA, while Ajit Menon is a professor at the Madras Institute of Development Studies, Chennai, India. The book builds its arguments around the concept of 'decentralised governance of natural resources'.

The practice of decentralising power to the local level has become central to public policy discourse. The authors argue that decentralisation enables local communities to better articulate their needs and fosters more sustainable, accountable, and equitable governance. To realise this vision, it is crucial to understand the environmental dimensions of local politics, which are deeply embedded in the broader political economy of decentralisation.

While the idea of democratic control over natural resources is widely accepted, the book highlights the socio-political and institutional challenges that arise in contexts marked by unequal property ownership and power dynamics. These disparities complicate both the process of decentralisation and the very notion of the 'local', especially in communities divided along lines of caste, class, and gender.

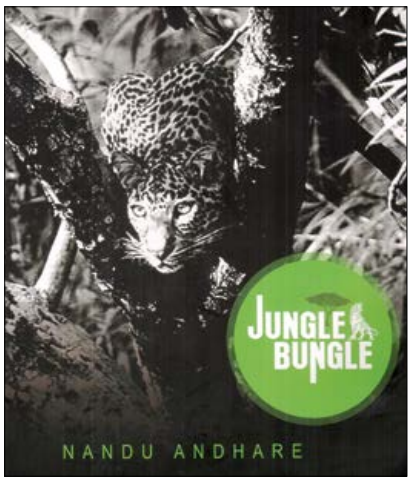
The book includes a range of case studies from both rural and urban settings, offering insights into local politics and institutions in the context of decentralisation. These case studies explore diverse issues – from land rights in Meghalaya, to the concerns of Koli fishers in Mumbai, to the outcomes of Joint Forest Management (JFM) in the Sundarbans.

To contextualise these case studies, the book refers to key legal frameworks introduced between 1980 and 2006, including the 73rd and 74th Constitutional Amendments, the Coastal Regulation Zone (CRZ) Notification of 1991, the Environmental Impact Assessment (EIA) Notification of 1994, the Panchayats (Extension to Scheduled Areas) Act (PESA) of 1996, and the Forest Rights Act (FRA) of 2006. It also discusses land rights, coastal rights, and issues related to common property resources, including land, referencing the JFM notification issued by the Government of India.

The authors critically examine local level decision-making, the gap between policy vision and implementation, and the degree of actual representation

among different local groups. This book will appeal to anyone interested in public policy, development studies, and environmental and socio economic issues.

After reading it, I was left with a sobering realization: since the 1970s, the country has gained little in terms of forest cover or the preservation of natural resources – except for a few isolated successes in certain states. Legislation, rules, notifications, and schemes have often been geared more towards the use and exploitation of natural resources than towards their protection and conservation. The book's definition of natural resource governance emphasizes the disparities and conflicts surrounding ownership and use, rather than the imperative to protect or conserve.



Jungle Bungle
by Nandu Andhare
Self-Published, 2024
Size: 22.5 x 22.5 cm
Pages: 100
Price: Not Mentioned
Paperback

Reviewed by: **Asif N. Khan**

JUNGLE BUNGLE is a vivid collection of over 30 short, first-hand narratives drawn from Nandu Andhare's extensive career as a naturalist and forest officer in Central India. Set primarily in the Melghat Tiger Reserve and its surrounding landscapes, the book offers a rich mosaic of field experiences – from dramatic encounters with sloth bears and leopards to nuanced observations of porcupines, wild boar, and the quieter rhythms of forest life, captured across changing seasons and diverse terrain.

What sets JUNGLE BUNGLE apart is its authenticity. Andhare writes with the clarity and authority of someone who has lived his subject, offering practical, on-the-ground insights that are both engaging and accessible. His tone is conversational yet sharply observant, avoiding technical jargon in favour of storytelling that welcomes both seasoned naturalists and general readers alike, drawing them into a world rarely seen up close.

The book goes beyond wildlife to illuminate the human dimensions of conservation – the camaraderie among forest staff, the traditional knowledge of tribal communities, and the institutional challenges encountered in the field. Without being didactic, Andhare addresses critical issues such as habitat degradation, the erosion of indigenous knowledge, and the limitations of bureaucratic systems, while maintaining a tone of quiet perseverance and hope.

Woven through these anecdotes is a deep respect for the forest and its inhabitants, both human and animal. The writing is grounded, unsentimental, and enriched with local detail. Each chapter contributes to a broader reflection on the fragility of India's natural heritage and the resilience of those who strive to protect it.

More than a field diary, JUNGLE BUNGLE is a heartfelt tribute to a landscape often overlooked in mainstream wildlife literature. It is a compelling read for anyone interested in conservation, field ecology, or the lived realities of forest life – delivered with wit, humility, and deep ecological insight.

We are grateful to

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The Tabebuia Trees

Tucked away in a quiet corner of our society – in Borivali, Mumbai – is a walking track that winds through a treasure trove of plant life. It's a little green haven that attracts not just us humans but also birds, butterflies, squirrels and lizards, – and countless moments of peace.

Right now, two stunning trees are stealing the show: the Pink Trumpet Tree *Tabebuia rosea* and the African Tulip Tree *Spathodea campanulata*. Every day, when I take my three-year-old Labrador, Lucy, for a walk, we find the path blanketed with a delicate carpet of pink blossoms. These flowers grow in clusters, releasing a sweet fragrance that lingers in the air. As the sunlight shifts, the petals shimmer in various shades of pink, creating a mesmerizing sight against the grey backdrop of urban development. It's a treat for sore eyes.

The tree responsible for this floral spectacle is, also known as the Pink Poui or Pink Trumpet Tree. The term 'poui' is used to describe trumpet-shaped flowers, and true to its name, this tree's blossoms resemble little trumpets. The tree is native to Central and South America – from southern Mexico to Venezuela and Ecuador and has a widespread presence in India. Its genus, *Tabebuia*, comes from the Amazon rainforests, and it is the national tree of El Salvador.

The British introduced these trees – both pink and golden varieties – to their colonies, bringing them first to Bangalore. One theory suggests they chose these vibrant, ornamental trees over native Indian species as they possibly reminded the colonizers of spring from back home. Whatever their reasons, these trees have found a warm welcome here, becoming part of our landscape. Today, you'll see rows of them lining the Eastern Express Highway near Vikhroli in Mumbai, and in Hyderabad, the Golden Trumpet Trees dazzle during their blooming season.

While reading an article in the Deccan Herald (dated March 23, 2024), I stumbled upon a delightful little tale about the origin of the word *Tabebuia*. It involves a mischievous pixie named Puck from Pixieland. After pulling one of his classic pranks, he hid under a Golden Trumpet Tree, where a golden flower landed on his head like a cap. Curious, he blew into the flower and, to his amusement, it made a high-pitched trumpet sound. Inspired, he began using it to startle other pixies. Soon, his friends joined in, much to

the annoyance of the older generation, who had to resort to earmuffs! Eventually, the doctor of Pixieland discovered that the trumpet flower's pollen was causing dizziness among the pixies. The tree was declared a 'taboo', giving rise to the playful name *Tabebuia* – pronounced 'taboo-bia'.

These trees are tough, sun-loving, and popular in both residential and commercial landscapes for their shade and beauty. Unlike other ornamental trees like Frangipani (Champa), *Tabebuia* trees attract pollinators, thanks to their nectar-rich flowers. In our own society garden, I have spotted at least two pairs of sunbirds sipping nectar regularly. A pair of red-vented bulbuls are frequent visitors, and a squirrel climbs up its trunk daily, often seen munching on the tree's bean-like fruit pods.

In Central American countries, the wood of numerous species of Tabebuia are prized for their density and hardness. The wood is used in crafting bows, boats, railroad ties, and tool handles.

The *Tabebuia* trees are more than just a splash of colour in summer, they offer beauty, shelter, and nectar. They are proof that nature, in all its hues and complexity, has both charm and purpose.

– Sangeeta Jain
Mumbai, Maharashtra

The Maharashtra government has decided to shut down *kabutar khanas* cross Mumbai to curb the spread of serious diseases caused by pigeon droppings

Pigeon menace in Urban India

Text: **Kishor Rithe**

The Common Pigeon *Columba livia*, also known as the Blue Rock Pigeon or *Kabutar* (in Hindi and Marathi), typically inhabits cliffs and rocky outcrops, which it prefers for nesting. However, in urban environments, these natural nesting sites have been replaced by parapets, air conditioning units, and other flat surfaces on buildings. Due to the continuous availability of food, urban pigeons now nest year-round, unlike their counterparts in the wild, whose breeding coincides with seasonal food availability. In natural ecosystems, predatory birds help control pigeon populations, but urbanization has drastically reduced the number of such predators in cities.

One major reason for pigeons' preference for urban areas is 'compassionate feeding' by humans. Andrew D. Blechman, author of PIGEONS: THE FASCINATING SAGA OF THE WORLD'S MOST REVERED AND REVILED BIRD, notes that "pigeons are not a menace if their population is under control. If there is an overpopulation, it is because of humans, either by deliberate overfeeding or due to food waste."

The issue of pigeon overpopulation in cities like Mumbai has been recognized for years. According to BirdLife International and the IUCN, the global population of common pigeons is approximately 2.6 billion. In India, the State of India's Birds report found that the common pigeon is the most abundant urban bird, followed by the House Crow.

This surge in pigeon populations has significant consequences, including changes in native bird species composition, decreased avian biodiversity, and impacts on human health.

In many Indian cities such as Delhi, Lucknow, and Indore, designated pigeon-feeding areas – known as *Kabutar*

Khanas – are maintained by registered or unregistered trusts. People often gather at these feeding stations to offer grains, motivated by religious beliefs that feeding pigeons earns spiritual merit (*punya*) or brings prosperity. Many also assume that the pigeons are dependent on human feeding for survival. Additionally, private feeding stations have emerged on balconies, terraces, and windowsills, further exacerbating the problem.

This artificial feeding has led to an unchecked increase in pigeon numbers, particularly in the absence of natural predators. Cities like Mumbai have witnessed pigeon populations surpassing the ecological carrying capacity. Even if this compassionate feeding stops, pigeons will still survive – but in smaller, more sustainable numbers based on natural food sources. Reliance on human feeding has diminished their ability to forage, an essential survival behaviour in wild birds. Moreover, improper feeding practices can lead to nutritional deficiencies in pigeons and attract other urban pests like rats and mice.

The population explosion of pigeons in urban environments is a serious trend expected to continue growing, as cities provide ample food and abundant nesting sites. Food waste and discarded carcasses also attract other scavengers like kites and crows, which further disrupt the urban avian ecosystem and pose risks to native species through predation and competition. Urban birds that rely on human feeding may also neglect to consume fruits vital for plant germination, thus affecting broader ecological processes. Our ignorance of these dynamics can lead to unintended, far-reaching consequences.

Veterinarians have warned that pigeon feeding stations may become hotspots for disease transmission. Dried droppings turn into airborne particulates (fomites), facilitating the spread of infections. Symptoms such as coughing, rhinitis, joint pain, and headaches are common in areas with high pigeon activity. Residents exposed to pigeon droppings are at significant risk.

Disease Transmission

Pigeons are known carriers of several diseases transmissible to humans and animals. Pigeons are also known to spread zoonotic diseases through ectoparasites present in their - feathers and bodies. Avian influenza is perhaps the most well-known, but other serious diseases include:

- Histoplasmosis: A fungal infection contracted by inhaling spores from dried bird droppings.
- Cryptococcal meningitis: A fungal infection that spreads from the lungs to the brain, with symptoms like confusion and altered behaviour.
- Psittacosis: A bacterial infection resembling pneumonia.
- Hypersensitivity pneumonitis: A serious lung disease caused by repeated exposure to allergens such as pigeon droppings.

Doctors believe that the public is at significant risk of contracting diseases, as pigeon droppings are found almost everywhere – on roads, in the soil, and especially in the nests pigeons build in our homes. A single pigeon can produce 12–15 kilograms of droppings annually, and since the faecal matter can become airborne, it can easily enter our lungs. In urban areas, this risk is exacerbated by poor air quality.

A 2019 study published in Lung India analyzed data from 19 cities between 2012 and 2015. It found that although most patients with hypersensitivity pneumonitis had been exposed to air coolers, the likelihood of developing the disease, compared to other types of Interstitial Lung Disease (ILD) – was highest among those exposed to birds. In Mumbai, doctors have reported hundreds of cases of this incurable disease annually. This disease causes scarring of the lungs, making it difficult to breathe. Scientific literature describes it as an immunological reaction in the lungs due to repeated inhalation of an antigen or allergen, with pigeon droppings being a common trigger. Patients often require long-term use of steroids or immunosuppressants.

Hundreds of people are diagnosed with these diseases every year in Mumbai. Doctors in city hospitals, after conducting a series of blood tests, X-rays, and computerized tomography scans (CT scans), have found that many patients suffer from a serious lung condition called hypersensitivity pneumonitis. According to doctors, there is no cure for the disease, and patients often have to rely on steroids or immunosuppressants for life.

Pulmonologists in Mumbai have reported a fivefold increase in disease burden over the past 10–15 years, directly linked to the exploding pigeon population.

Case Study: Maharashtra

The problem has become severe in cities like Mumbai. Citizens have started raising the issue with government authorities. On July 3, 2025, political leaders raised the issue in the Maharashtra Legislative Council, emphasizing the health risks posed by *Kabutar Khanas*. Political leader

V. GOPI NAIDU

This surge in pigeon populations has significantly altered the composition of native bird species

also reported losing a relative due to respiratory illness linked to pigeon droppings.

In response, Minister Uday Samant, on behalf of the Urban Development Minister and Deputy Chief Minister Eknath Shinde, confirmed the existence of 51 *Kabutar Khanas* in Mumbai and announced their immediate closure. Unauthorized feeding stations in areas such as Santacruz East and West and Daulat Nagar were dismantled, and the Brihanmumbai Municipal Corporation (BMC) repurposed these spaces into traffic islands and Miyawaki gardens.

Legal Action

The issue has also reached the judiciary. In July 2016, the Bombay High Court ruled that bird feeding should not be a public nuisance. The Supreme Court upheld this order in 2019. In 2023, the Bombay High Court again ordered municipal corporations to act. Cities like Mumbai, Pune, and Thane began imposing ₹ 500 fines on public pigeon feeders, declaring pigeon overpopulation a public health hazard. However, enforcement has had limited effect, and public feeding continues. A similar petition was filed in the Allahabad High Court in 2023 seeking action against pigeons causing public nuisance in Lucknow.

Solutions

In Singapore, it is illegal to feed birds, including pigeons, in public places. This is enforced under the Wildlife Act, with fines of up to $5,000 for a first offense and $10,000 for subsequent offenses. There is no licensing option for feeding birds in Singapore, as the practice is generally discouraged due to the negative impacts on public hygiene, wildlife, and the environment.

The Bombay Natural History Society (BNHS) has launched an awareness campaign to address the issue. BNHS has created educational material, including a short film available on YouTube and social media, to highlight the dangers of pigeon overpopulation and promote alternative, sustainable bird conservation practices.

The campaign targets key stakeholders such as trusts managing *Kabutar Khanas*, municipal corporations (BMC, NMMC, KDMC), and educational and religious institutions. Over time, the initiative aims to expand to other urban centers. BNHS emphasizes that misplaced compassion is not conservation. Instead of feeding pigeons, citizens should focus on planting native trees that provide natural shelter, food, and nesting sites for birds.

Conclusion

There is an urgent need to address the overpopulation of pigeons in Indian cities, not only to protect biodiversity but also to safeguard human and animal health. With support from citizens, government authorities, and conservation organizations like BNHS, community-based solutions can be implemented. Sustainable conservation requires informed action – rooted in science and empathy, not blind rituals. Let us help birds the right way – by nurturing their natural habitats and supporting ecological balance. ■

Kishor Rithe, Director, BNHS, has been working for wildlife conservation through sustainable livelihoods, conservation action, advocacy, and policy for over three decades.

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